POLICE AVIATION

- a history

1914-1990

INTRODUCTION

As far as I am aware, this history of the varied methods by which the law enforcement forces of the world arrived in a position whereby, by the late 1990s, most of them have been able to undertake air patrols is the first attempted. The content is exhaustive as possible in the face of a degree of secrecy and a certain lack of inertia.

The meaning of the word “police” is, I recall from my training days over thirty years ago, the means by which governments endeavor to keep the peace. Although still valid in many parts of the world, this statement to fledgling British police was probably never intended to encompass the sheer diversity of modern law enforcement. Written in the days of Victoria, it was inward looking and took no account of the extensive para-military activity that now typifies policing across the world. For this reason the researching and compilation of this book has been complicated by the requirement to make arbitrary decisions about just which law enforcement bodies to include in the survey.

Instances of this can be clearly seen from the coverage of the United States of America [USA], the country where the ground swell of law enforcement aviation was, and is, most clearly to be seen. In the USA there are thousands of law enforcement units across the length and breadth of this massive country, some use aircraft. In addition to the hundreds of police, marshall and sheriff units, each thrusting forward, individually and mutually, in the battle against law breakers, there are the large Federal organizations, most of which give the impression of having other, more pressing, duties to perform than law enforcement. The activities of such as the US Coast Guard, US Customs, Federal Bureau of Investigation [FBI] and Central Intelligence Agency [CIA] regularly encroach upon day to day law enforcement work - especially in the field of drugs. To avoid the obvious danger of becoming involved in the compilation a history of the 20th Century, within these pages, although not ignored, out of necessity these bodies do not receive their due acknowledgment. In the arbitrary task of choosing those law enforcement groups to include in detail anomalies abound. Whereas the FBI receives scant mention, the Gendarmerie in France, a military regiment with important aviation support duties to civil police in that country, receives a relatively extensive coverage.

Primarily this is a book about the development of police flying in the British Isles. Naturally any research based in the United Kingdom [UK] will result in the availability of a far greater wealth of material relating to those islands than elsewhere. Nonetheless I hope that there is sufficient mention of activity in other parts of the world to place this in its correct context.

I suspect that, no matter how even handed the research effort has been, it will soon be proven that some aspects of it can be shown in error. I still await, with some trepidation, the emergence of the story of some member of the French Gendarmerie being taken aloft in a Mongolfier hot air balloon for law enforcement duties a full 150 years prior to the earliest date I present.

In the narrower field of British police aviation endeavor, the reader will gain the distinct impression that the London Metropolitan Police were, and remain, the primary force behind police flight. That is unfortunate, but it is also largely true. A certain tendency toward the London police is a reflection of the amount of material preserved about it. This police force is obliged by law to retain large sections of its archives in the Public Record Office at Kew, London, an onerous and time consuming task that does not afflict many others. The result is an unprecedented wealth of preserved material. In addition, the author was given extensive help by the archival staff of the Metropolitan Police during and after his service with that force. It is fortunate that subsequent research confirmed this force to be the primary user of police aviation in the UK throughout the last seventy years.

Basing the story around the events in the UK is perhaps less forgivable, especially in view of the

fact that it is now quite clear that in many cases the British have lagged behind the rest of the world. Indeed they continue to do so. I defend this nationalistic stance only on the grounds that every story has to have a core theme. I accept that if this writing effort had fallen to an author from another nation, the chances are that the inadequate effort of the UK might easily be wholly ignored!

A large number of people from many nations have assisted me in the research for this project, fewer than might be expected are, or were, law enforcement officers. It is a pity that the men and women who work at the sharp end in the industry are less conscious of their traditions than they might be, but that is the nature of their generally youthful ranks. I can vouch from personal experience that once approaching the age group at which they might be expected to take a greater interest in the past of their chosen workplace they are retiring and taking an interest in another line of occupation. It is therefore the interests of very few and the knowledge of many outsiders which serve to place this story before you.

It became clear during the compilation of the story that in spite of the vast amount preserved, much of the early material had gone astray. Much was never recorded, more was deliberately destroyed as of no interest. Years later, many authors of general reports attempted to place their writings into a historical perspective with no accurate guidelines to follow on the subject. As a result many such efforts failed to place events in a correct historical perspective. All this might have been different had there been a reasonable attempt at preservation of the records at the time. As it is, the lack of accurate records has ensured that even this rendition suffers from a lack of reliable information.

In compiling this history of law enforcement flying, the prime vote of thanks must go to Richard Riding, the editor of the London based, nostalgia biased, magazine “Aeroplane Monthly”. Without his initial assistance and encouragement in the provision of suitable illustrations for the Metropolitan Police Museum, I may never have inquired into the deeper aspects of much faulty material that originally co-existed with the truth in the British police archives. Many of the earlier questions were answered by the fruits of his personal research. Beyond that, access was freely given to the archives of “Aeroplane” and “Flight”.

The Metropolitan Police Museum and its separate, but allied, archival service can also take their share of the credit, even where it was eventually possible to fault sections of the material. Across the world, a number of industrial concerns, museums and archive sources have been used in the compilation of this story - including some of the most unlikely candidates. To each of these are extended thanks for access, freely given, to their files.

A large number of individuals bear specific mention. They appear alphabetically for I feel that even if the material provided equates to one line or fifty pages, none is to be considered more worthy of thanks than another. Many of them you will meet in the pages that follow. Richard Almond, John P Arrabit, Gerry Attwell, Brian Austria-Tomkins, John Ball, John Bamford, Robert Bartlett, Mel Bennett, Jack Blair, Jim Boardman, Alan Bristow, Bernard Brown, Alan Bruce, John Bunker, Arthur Burland, Geoffrey Chamberlain, Frank Cheesman, George Chesworth, John Cross, Steve Darke, Peter Davis, Jack Dennett, James A DiGiovanna, Bruce Dix, Nigel Dunhill, Bill Duthoit, John Dwyer, Ken Earney, Mick Ellwood, Frank Esson, Malcolm Fillmore, Robin Gillis, Harry Godfrey, Jack & Phyllis Hamblin, Brett Harvey, Michael Haunschild, Ken Hayward, Eric Hill, John Hordern, Geoff Hyde-Fynn, Alex Imrie, Roger Jackson, John Keepe, Mike Klisky, Desmond Leach, Murdoch Macleod, John McKinney, Phillip Maer, John Mallelieu, David Mander, Peter Marson, Eric Myall, Saneaki Saito, Lydia Singh, John Mason, Peter Steinlechner, Jim McMahon, John Muir, Eric Myall, Michael Oakey, Dennis W O’Brien, Charles Oman, Jeremy Parkin, Paul Pearce, Ronald Potter, John Pringle, Trevor Prytherch, Mark Rand, Keith Renew, Jimmy Richardson, Roy Rodwell, Bob Ronge, G Rupprecht, Robert Ruprecht, Peter Solomonides, Bob Stevens, Peter Street, Ray Sturtivant, Maurice Taylor, David Tuckfield, Julian Verity, Kenneth Wallis, Charles Wastie, William T Wilkens, Peter Williams and, finally, Alan Wright. To each I can only say a heartfelt ‘thank you’ for all of your time and trouble. It has been a long road, but we finally got the story in folks!

CHAPTER ONE

In the beginning

The official use of aerial observation, in a variety of forms, by British Police began on an experimental basis in the summer of 1921. Preceding this activity in the United Kingdom [UK] there were a number of instances of the police in other countries undertaking to use aviation in a law enforcement environment. Often, although generally disregarded by historians, these were successful experiments.

Contrary to popular opinion, law enforcement from the air is not a modern phenomenon and it does not equate solely to helicopters. It can be traced back to immediately prior to the Great War, within a decade of the first heavier than air flight taking place.

The first recorded use of aircraft on police duty took place in the southern United States in January 1914. The location for this historic event was Miami on the Atlantic coast of Florida.

For a few weeks in the early part of 1914, the white sand beach outside the Miami Royal Palms Hotel played host to one of two modified Curtiss Model F flying boats. The crafts were then in the ownership of Harold F McCormick of the Chicago based International Harvester Co. McCormick had decided to spare the aircraft and its two man crew the rigours of an Illinois winter and seek the opportunity to earn its keep flying tourists on trips around the bay from $10 a trip. Charles C Witmer, McCormick's regular pilot, was accompanied on the railroad trip with the dismantled aircraft to Florida by mechanic George E A Hallett. The Curtiss was well appointed for the "joy ride" task, one of the features incorporated into the special order flying boat being the then extremely rare availability of four seats!

The aircraft had been plying its trade on the beach for a some time when the local police approached Witmer with a request for the use of his employer's aeroplane to pursue a jewel thief.

The theft of a quantity of precious jewellery from a hotel, we can only assume that it was the Royal Palms itself, was reported and during the investigations it became apparent that a member of the hotel staff, a porter, was unaccounted for. Enquiries led the police to believe that the missing man had boarded a steamer recently setting off east from Miami for Bermuda.
Witmer consulted with his distant employer and agreed to take two members of the police in pursuit of the ship. With shades of the arrangements that had taken place a few years earlier in arranging the apprehension of the murderer Dr. Crippen aboard the SS Montrose in July 1910, a wireless message was sent to the ship and the captain agreed to heave too and await the arrival of the Curtiss.

Alighting alongside the ship, the senior detective boarded and quickly identified and apprehended the suspect. All four returned to Miami. In court the defence attempted to claim that the offshore arrest was unlawful, but wiser counsel ruled that this was not so as the ship was extended US territory.

McCormick's 100hp Curtiss failed to make the hoped for profit out of its trip to Florida. Shortly after the assistance rendered to the police the craft was again dismantled and sent north after it was discovered that in avoiding the Chicago winter all the metal fittings had suffered terminal salt water metal corrosion and required changing.

This incident was not the only early aeronautical law enforcement awakening prior to the out-

break of the Great War in Europe. Later in 1914, in New York, a serving officer in the Police Department [NYPD] by the name of Charles M Murphy, undertook a single handed attempt at the creation of a police air arm.

Known as "Mile a minute Murphy" by those aware of his successful feat of attaining that speed on a bicycle in the wake of a railroad train in 1899, in 1914 he was probably the only serving policeman in the world with a pilots licence. Undoubtedly enthusiastic, and apparently a competent flier of monoplanes. Unfortunately for Officer Murphy, in 1914 his strident publicity for an immediate start up of a police flying unit fell on deaf ears and, unsuccessful in his immediate aims, he appears to have faded from sight when, after the Great War, some progress was made.

Although he was not heard of again, it will obviously have been a source of great pleasure to Murphy that the first long term police related operations set up where those created immediately after the Great War by the NYPD.

Law enforcement in the United States is very much a multi-agency operation, it is difficult to separate the police and sheriff's offices from such as the US Coast Guard, FBI, drug agencies and the military. They all have a part in the action. The greater portion of the task falls upon many small units, some being only formed by a handful of officers.

In modern times it has been estimated that there are at least 16,000 agencies undertaking the multitude of tasks that make up a policeman's job. This figure has been falling dramatically in recent years, which underlines the magnitude of the far greater numbers in the past. Faced with such a wide variety, we are unlikely to ever identify each and every early venture into law enforcement flying.

Immediately after the Great War the NYPD sought to set up a police air unit. Classed among the worlds least successful aeronautical ventures, it has been largely ignored even by its modern day successors.

Following a serious fire which had threatened to ignite a large quantity of stored TNT explosive in the city, in November 1918 Colonel Jefferson DeMont Thompson of the Aero Club of New York was appointed by the then Police Commissioner for New York, Richard Enright, to take charge of a special Aviation Section. Staffed almost wholly by part-timers at the weekends, this unit was to be a joint police and fire department enterprise given a primary aim of fire watching and secondary duties related to the policing of the rivers, harbour and bay area. Although a world leader, this reliance upon part-time staff led to this unit failing to serve the needs of the City of New York.

A few months after the initial announcement in New York it was stated that the aircraft, loaned ex -USN seaplanes, of the Aviation Section were to replace conventional waterborne patrol boats. The creation of this unit was not as wholehearted as the newspapers were led to believe, much of it remained a cosmetic exercise. Initially, there were no full time police staff, each of the members being ex-military assigned to the police reserves - equal to the "specials" in Britain's police - and, unpaid except for expenses and a free uniform. The most telling feature was that they, and their invaluable duties, were only regularly available out of the normal working week.

In May 1919 the NYPD operation co-operated with other elements of the land born police and the local sheriff to put on a public show for the local populace at the second Pan American Aeronautical Convention at Atlantic City Airport. Fifteen members of the NYPD air force appeared for the first time in public wearing their sky blue uniforms. Making use of the motor car driven by Alfred Perkins, the Atlantic County Sheriff, a spurious "car theft" scenario was enacted for the eager crowd. Taken by a car thief, actually one Richard Black a Deputy in the Atlantic City Vice Squad, the car was seen making off by the "distraught" Sheriff Perkins as he chatted with pilot Eddie Stinson. The latter was then little more than one of many "barn-stormer" display pilots, later he was to be well known as an aircraft manufacturer, some of whose products saw limited police use. The pair leaped aboard Stinson's aircraft and set off in pursuit. The NYPD crew joined in the mock chase, with Captain Horace Keane circling overhead as the passenger and observer of a

pilot called Stehlin, transmitting suitable wireless messages to men on the ground to successfully intercept the fleeing stolen car.

Whilst on the face of it this event was little more than a display of razzmatazz to entertain the public, it was also intended to be a demonstration of the intended manner in which the NYPD sought to operate its flyers and serves to show that they had grasped an understanding that in the use of aircraft they also needed the facility of airborne wireless to maintain a suitable level of control.

The flying activities of the NYPD Reserve flyers regularly featured in the New York Times, but years were to pass before extensive details of this New York operation came to light in the British aeronautical press. In mid-June 1921, a date coinciding with the earliest British police use experiments with airships over Epsom and Ascot Races and the Hendon RAF Air Display, the NYPD Air Section consisted of Inspector Dwyer and a single patrolman of the regular police and a number of volunteer reservists under the titular head, Rodman Wanamaker Jr. A number of well known private pilots of the day, including Eddie Stinson, remained closely involved with the operations and air displays put on by the air unit. At that time the police unit was reported to have three bases, Dykes Beach Park, Brooklyn, 82nd Street, North River and 130th Street and Hudson River. In addition the use of the USN landing ground at Fort Hamilton, Brooklyn, was available. Reports in 1922 stated that the principal hanger was located at Fort Hamilton, five landing places were available for regular police use. The type of "seaplane" initially used is unknown, but newspaper reports in the summer of 1922 claimed that there were "five fast airplanes" and 300 men assigned to the unit

The Air Section had created a "School of aviation" situated at 156 Greenwich Street, New York, under the command of Captain Brennan. Free evening instruction was given to the volunteers in a variety of aeronautical crafts including wireless, engineering and flying. The volunteers were required to pass the US Army physical and, when proficient, enrol in the Aviation Corps. At the time the school had the use of two seaplanes lent by the US Navy for practical instruction at Port Washington, Long Island. This pair were presumably additional to the examples available for flight instruction. Nonetheless the operation was very much "flying club" in nature.

Aside from Federal effort like that provided by the Coast Guard, then a body less involved in outright law enforcement than it is today, New York's efforts were far in advance of anything else in the United States.

However, the NYPD Reserves operation was not the only police and sheriff law enforcement aviation activity to take place in the USA during this period.

During the early years of the Great War, some time before Uncle Sam entered the bloody conflict in Europe, the San Francisco Police Department were flying a Martin TT [Tractor Trainer] biplane on patrols. All knowledge relating to this operation relies upon the interpretation of a single glass slide showing the aircraft with a police van on the San Francisco Marina, therefore the true extent of this operation is not known.

The Martin two-seat trainer, one of only 25 built by the manufacturer, wore dual markings one set suggesting that it was operated by the Gates-Purcell Aircraft Co., and the other that it was designated as the SFPD Aerial Patrol Plane No.1. With the lack of information relating to this illustration the immediate question enquires whether there was then a number 2!

On May 6, 1919 the police in Atlantic City, Wyoming, claimed the transmission of a wireless message from an unidentified "police" aircraft, this leading to the "prompt and successful pursuit of a motor car thief". Later the same month the police in Dayton, Ohio, claimed that they were the first to use an aeroplane for the transportation of a prisoner. Police Inspector Yendes flew over to Indianapolis in a machine piloted by Harry Walhon to collect embezzler Robert H Tamplin. Although it was a little different in form, the latter claim to a "first" was shaky in the face of the 1914 operation off Miami.

In spite of the ravages wreaked by the recent war, the greatest advances in police aviation took place on mainland Europe. It was two of the main elements of the Axis forces that sought the creation and expansion of police aviation as a means whereby they might retain aeronautical elements under government control into the enforced peace.

Both Germany and Austria, the latter formerly the Austro-Hungary of the war years, were faced with demands from the Allies which would seek to grind all military elements in their countries into the ground, and then demand reparations.

Although a few were taken as war booty to Britain and the United States, others to arm Holland, thousands of wartime aircraft were to be destroyed in both countries. At the end of the Great War Germany had possessed approximately 20,000 military aircraft of which some 2,400 were designated to be first line scout, reconnaissance and bomber types. Over 15,000 aircraft and twice that number of engines were to be surrendered and destroyed.

All military aircraft activity was supposed to cease in June 1919, with the signing of the Treaty of Versailles, the instrument under which the Allies laid down their requirements. The Germans were having nothing of this and kept back a number of aircraft to operate as mounts for the so called "Air Police". These machines were not types that would easily fit into the average layman's idea of civil aircraft. Types since identified include a range of single seat scouts, two seat reconnaissance aircraft and even heavy bombers.

The Treaty of Versailles was dogged by a number of errors, among which was a stipulation that only military aviation was specifically banned. The idea was that the later emergence of a new German Flying Corps would be precluded by this measure. The German's fought the idea, and lost. Fortunately for them though, there was sufficient confusion caused to enable them to "spirit" away a sizeable number of useful machines for later use with a reborn police air corps.

The position in Austria was similar to that in the land of its neighbouring former ally, the major differences only lay in numbers and aircraft types. When the German and Austrian authorities requested the Council of Ambassadors in Paris for permission to regularise their respective civil police aircraft arrangements in March 1920 the request was refused on the grounds that such aircraft use was contrary to the terms of the Treaty. At that point it is clear that, publicly at least, police air operations ceased. There, a large section of the outside world fondly believed, the matter rested.

What in Britain would be regarded as "police duties" are in many European countries, specifically Belgium, France, Holland and Italy, the responsibility of military agencies. There is a long history of civil law enforcement in Europe relying on elements of the military police. Forces now firmly accepted in the public mind as carrying out civil police duties in the last two hundred years have, or had, their roots firmly in a military background. The Gendarmerie in France and Belgium, the latter better known under the Flemish name of Rijkswacht, and the Caribinieri of Italy are the best known examples.

The Italian nation fought the Great War on the same side as the French, British and Americans. Their theatre of war was primarily the Adriatic and Balkans, with reports of members of the military police, the Caribinieri, making accomplished scout pilots in the air war against the forces of the Austro-Hungarian alliance.

In the summer of 1919, members of the Italian civil Police, an organisation under the guidance of the Ministry of the Interior, shunned the regular steamer voyage and made use of an seaplane to fly the 20 miles from Naples on the mainland to the island of Capri during darkness in order to retain an element of surprise when undertaking a raid on an illegal gambling establishment. This event was preceded by the sending of an undercover detective who managed to trace the location of the gambling den on the island. This officers fears about the arrival of a posse of reinforcements on the public steamer service in daylight were circumvented by flying them to a re-

mote part of the island. The police marched to the gambling house and arrested a number of people - including the Briton who had been running it.

An exact date for the commencement of police flying in France is not known. The fact that the history of the Gendarmerie dates back to Napoleonic times at least raises the possibility that some member of its ranks may have gone aloft in a military balloon and thereby created an undiscovered first for *la France*. Without confirmation of that vague possibility, the kudos of the first ever police flight remains firmly with the Americans in 1914.

In August 1920 the French flying school at Istres was the scene of a burglary in which the thieves got away with a number of items and a locked safe with 20,000 francs inside. Knowing that the safe was heavy as well as valuable, the commandant of the school instigated a thorough search of the burgled building and the surrounding area but found no sign of it or any other of the missing items. Still awaiting the arrival of the police, he sent up two aeroplanes to undertake an aerial search of the surrounding area. One of the pilots spotted a newly dug mound in the vicinity of the airfield and landed beside it. It was a matter of minutes before sufficient of the earth was removed to uncover the safe, still unopened an with its contents intact.

In the face of all this activity across the world, in Britain the pace of progress was somewhat slower. Before the war Britain had formulated a number of Acts of Parliament to control aviation. Generally, with low numbers then extant, aircraft were not individually registered like the pilots were, but regulations were created primarily to ensure that these aircraft were prohibited from flying near to certain areas. As a rule these were in the vicinity of military establishments, a requirement which succeeded in creating a massive no-go area along the River Thames that became a serious bar to progress north of Surrey and Kent!

Post war the aeroplane was a better understood machine and this bar to progress was largely dismantled and aircraft received identifying markings for the first time.

As the largest police force in the UK, the London Metropolitan Police was to be involved in the majority of the Government financed trials that were a feature throughout the development of police aviation in the British Isles. In addition to these overtly law enforcement orientated trials, a number of apparently disconnected official and commercial experiments over the years were to form the basis for equipment and methods now used by modern police air support units across the world.

During March 1919, in the London "Daily Mail", it was announced that the post of "Chief Constable" and other ranks in a new British Aerial Police was to be opened to young flying men with military experience. As envisaged this force was to work with the existing customs and police services under the direction of Major-General Sir F H Sykes the Controller of Civil Aviation. It was to be divided into two branches, the first of which was to be equipped with pursuit scouts and the second was to be a larger, ground based, body tasked with controlling the aerodromes. This force was also to have a distinctive uniform and based at a number of coastal aerodromes, where foreign visitors were to be required to land when entering UK airspace, in the accepted manner of the modern customs airfields.

Bearing in mind that many of the wartime restrictions and, more importantly, siege mentality state of mind were still evident at this time it is perhaps more understandable that the aims for this body were more military than normally associated with British police of this, or any other period. It was decreed that aviators who chose to ignore the directions of the aerial police, or strayed off the designated route issued at the customs airfield were to be punished. It was stated, in the most serious manner, that anyone who might so much as drop an orange in or around an arms factory, therefore create the danger of an explosion, either intentionally or accidentally. The scout aircraft to be issued to this force were to be armed with machine guns with tracer bullets, it being intended that they might warn off the wrongdoer with a burst of fire, or "do something drastic". The writer appears to have failed to grasp the simple fact that a burst of tracer fire falling to ground [or indeed the burning aircraft of the wrongdoer, set in a terminal dive to destruction]

might have a somewhat more drastic effect upon the average British street or arms factory than a mere discarded orange.

Clearly the plans for the proposed force were distorted by the effects of the war and an understandable unease at the stability of the peace treaty arrived at to close the conflict. The majority of the duties envisaged were clearly in conflict with those previously assigned to the recently formed Royal Air Force [RAF] and might be expected to result in clashes between the two parties over the shrinking budgets that to typify the post war years.

Predictably, in mid-August 1919, it was officially announced that the Secretary of State for Air, Major General, the Right Honourable J E B Seely, had reported that it was no longer considered that the expense of maintaining an Air Police Force would be justified at present. As often happened in the UK it had been decided that half measures would apply.

Prior to the Great War Authority had decided that, in spite of a lack of training, the main body of police would undertake the task of inspecting and regulating aerodromes - much in the manner of the modern day employees of the Civil Aviation Authority [CAA]. This pre-war legal requirement had included the banning of aircraft from over-flying sensitive sites such as armament factories, mainly those in the London area. These regulations were flouted by members of the German air force shortly afterwards! For many years permanently or temporarily licensed civil landing grounds were the direct responsibility of local police stations. This tangent from normal police duty was undertaken with a measure of success and few complaints. The task undertaken by the police was as a result of the early Air Navigation Act's being formulated and issued by the Home Office. The police, also beholden to the Home Office, became the natural supervisors of the regulatory edicts.

Although some aspects of aviation law remained within the area of responsibility of the police, most slowly devolved upon the Air Ministry and a new civil regulatory body.

Today police civil aviation involvement is largely confined to an authority to demand the production of flying documents for inspection after an incident and the provision of a cadre of faceless Special Branch officers to undertake a covert watch on comings and goings.

In July 1920 the then Commissioner of Police for the Metropolis, General the Rt. Hon. Sir Neville Macready Bt. GCMG. KCB. corresponded with executives of the Central Aircraft Company with regard to the possibility that a "police air arm" might be formed. The company had seized upon a brief but inaccurate newspaper story suggesting that police were about to require pilot training in pursuit of such an aim. Central Aircraft was a small company which produced a few aircraft at Kilburn and undertook training and passenger flights until going out of business in 1926. The negotiations were informal, with no conclusive outcome other than subsequent enquiries being made at the Air Ministry to ascertain the feasibility of aircraft use by police. One of Macready's senior police advisers, Deputy Commissioner Norman Kendal, stated that in his opinion any future police requirement in this field would be better served by either the Air Ministry or a larger commercial aeronautical concern like Messrs. Handley Page. Insubstantial, these events at least corroborate other reports that the subject was being considered at that time.

The first experimental police flight in the UK is reputed to have taken place a little earlier. In the UK most of the early police air observation experiments centred on the annual Epsom and Ascot summer horse race meetings which take place to the south west of the Capital in May and June, a time of year not always blessed with reasonable flying weather. For reasons never adequately explained, beyond their undoubted popularity with the race-going public at large, none of the other meetings at these race courses drew such police attention, even experimentally.

Each event in the summer calendar required the attendance of large numbers of police, these being drawn from across the length and breadth of London to control an ever increasing volume of heavy motor traffic to roads designed for light local traffic and horses. The races at Ascot, situated close to the borders of three forces, required additional resources from the police of Surrey

and Berkshire.

On Epsom Derby Day June 2, 1920 the Royal Air Force [RAF] are reputed to have provided an aircraft in which a police observer was taken aloft to view the traffic approaching the course. Both the aircraft and crew are unidentified. This, and a singular lack of reports in the columns of either the national daily newspapers or the aeronautical press, lead to serious doubt being levelled at the substance of this story.

According to some press reports of the event, there was one aeroplane at the Epsom racecourse in June 1920. An Airco DH4, a civil registered converted Great War bomber was contracted to fly photographic plates of the race north for inclusion in the following day's editions of the Leeds Mercury and Glasgow Daily Record. This aircraft, G-EAZS, had no known police connection.

It was said that the police aircraft was not equipped with wireless, the machine being required to land near the course to enable the reports from the observer to be passed to police on the ground. This was feasible as the centre of police operations was almost always centred near Tattenham Corner, close to open fields. A further boost to the substance of this story is that it bore many similarities to original reports relating to police operations in the area in the summer of 1923. The, now discredited, original story relating to the 1923 Derby suggested the type in use to be a Great War vintage Bristol Fighter. The use of such a machine in 1920 would be wholly in keeping.

A further complication to determining the truth about the 1920 Derby came from the Metropolitan Police Deputy Assistant Commissioner of A Department [DACA] at that time. DACA Sir Percy Laurie, stated in official papers drawn up in 1936 that he had arranged for an aeroplane flight for the police at the Derby in 1920. Was he mistaken in the exact year involved?

The combination of a brief interview with Norman Kendall, another senior figure with the Metropolitan Police, and some knowledge of the earlier meetings, resulted in an article appearing in the columns of "The Times" in October 1920. Correspondent Harry Harper, visualised that it was to be only a short while before police made extensive use of aviation to enable inspectors to fly to the scenes of out of town crimes. The proofs of the story were submitted to New Scotland Yard for comment prior to publication. It was not well received by Kendall. His own limited knowledge of flight related to the stick and string aircraft he was able to see in use rather than any possible future developments. He considered that any of the most senior ranks were unlikely to relish arrival at the scene of a crime chilled to the bone and suffering from exposure. Harper's suggestion that the police should actually own their own aircraft was likewise derided. What next? Perhaps the police should purchase their own railway train, complete with driver and fireman!

Harry Harper had not read the clear warning signs displayed by a police force that still had virtually no motor transport, other than those allotted to very senior officers, two decades after the arrival of the practical car. The chances of them taking up with aeroplanes in the even shorter time span since Kittyhawk was even less likely. Clearly the journalist disregarded all of Kendall's negative comments and published just the same.

In the event Harry Harper was closer to the truth than Norman Kendall and the Metropolitan Police did in fact take up with aircraft for traffic control nearly ten years before the first motor patrol using ground based vehicles was created.

A different Police Commissioner was in office the following year when the suitability of large military airships was explored. When launched in 1919, the Armstrong Whitworth built airship R33, and its sister craft R34, were the largest airships extant. Based on German Zeppelin designs, both of these 643 foot long airships were the result of military orders placed during the Great War. In January 1921, R33 was transferred from the military to take up a civil registration G-FAAG. The earlier military designation, R33, was destined to remain its common name throughout. The giant airships were a great embarrassment to the government of the day. Designed as bombers and too late for use in the war, they were deemed too large and expensive to retain for

military service in a very run down peace-time environment that naively assumed there would be no further conflicts after the "war to end all wars". The hope was that these and other surplus military craft would find favour with a civil operator.

It fell to the DACA at Scotland Yard, Sir Percy Laurie, to arrange the details for the first fully documented police aircraft operation in Britain, an event that was wholly subsidised as a publicity exercise for the airship disposal plans. Under the headline "P.C. R33", the "Daily Mirror" subsequently reported that "..... for the first time in history Derby Traffic was controlled from the .....". Was it?

The great hydrogen filled airship was seen in the skies over Epsom on two of the race meeting days. Although relatively punctual and problem free on its first visit, on May 31, on the day that actually counted, Derby Day itself, the craft arrived very late due to strong headwinds encountered on its way from the government airship station at Cardington, Bedfordshire.

The R33 performed its police task successfully in the face of problems caused by less than perfect weather. The sheer bulk of the 1,950,000 cubic foot envelope proved extremely difficult to handle at low altitude. As was to be found in the decades to follow, airships of all types were not to present themselves as ideal "instant response" vehicles for efficient police service in anything but calm weather. In even the most favourable of wind conditions, they were to consistently prove to be sluggish in responding to both power output and helm.

The first use of the R33 was primarily an observation sortie. As this airship reproduced the layout of the German military bomber type it was based upon, accommodation was severely restricted. The airship was fitted with a number of underslung cars, most of which contained large propulsion engines and propellers. An exception was the forward control car which featured the conning position, a radio room and an engine. The restricted size of the main control car was such that there was precious little room for police interlopers. Observed traffic flow information was passed by Major Fox on board the airship to the ground by wireless morse telegraph. The compact radio room was situated at the rear of the control room and forward of the engine room.

Beneath the main grandstand on the racecourse a "police office" was set up in a cubby hole to house the Marconi equipment to receive the information from the airship and send it out to some of the 1,800 police officers assigned to alleviate traffic congestion and control traffic. The equipment was as advanced as any of the period, although it was used in a static form in 1921, mobility for police uses was on its way.

The police not the only body with an interest in wireless. That year, 1921, was the first occasion ever to have its result - a win for "Humorist" - transmitted live immediately after the race, via a public broadcast wireless set up on the course.

The air over the race-course was particularly busy that day. In addition to the airship, police had obtained the services of the RAF to provide air-to-ground photographs of the traffic conditions for later analysis. As well as the aircraft allotted to this task the de Havilland Aircraft Company at Stag Lane had used "a number" of aircraft for traffic spotting. Any police involvement in the latter arrangement was unlikely. The prime task of these commercially backed flights was the taking of a number of excellent photographs which eventually found their way into the extensive files of "Aerofilms Ltd.,", with a secondary purpose as a public relations exercise for de Havilland. It was easy to demonstrate the positive economy of two seat small aeroplanes in comparison with the giant multi-crew airship used by the police. As the use and ownership of aircraft widened over the years, their presence in the skies was seen as a serious problem in the vicinity of Epsom and Ascot on race days. The extent of this problem quickly led to the Air Ministry imposing controls, primarily to curb air advertising. In most instances the police were responsible for prosecutions - regardless of their general lack of individual expertise. Air related prosecutions were few, and rarely crowned by success in the courts.

The newly flown airship R36, G-FAAF, even larger than the R33 with a gas capacity of 2,101,000

cubic feet, performed further duties for the police over the Ascot Races on June 14, 1921. Again this sortie was intended by the government as a means of creating interest in off-loading the airships into private hands. In comparison with the R33, the R36 was a far better proposition for the police duty in that it featured better accommodation. Modified to provide greater passenger space, the rear of the control car included a roomy section able to take some two dozen passengers in addition to the crew of 37, it was hoped that many more influential people would be in a position to push for the sale of the craft.

The sortie over the Ascot Races involved representatives of the three police forces adjoining the course, Surrey, Berkshire and London. Among the police observers sent aloft in the R36 were two senior Metropolitan Police officers from Scotland Yard; Assistant Commissioner Mr. Frank Elliott and Superintendent Arthur Ernest Bassom of the traffic department.

The R36 operation was formulated under similar constraints as those affecting the R33. The well equipped airship base at Cardington was not used for this flight and R36 operated from a different airship station on this occasion, Pulham on the Suffolk coast. The day started well, but operating from this remote site, the subsequent operation was ultimately to be very taxing on crew and passengers alike.

Reports on the flight vary with the source. Some stories even tend to disagree with each other about the basic details. Some state that the day started at 0600hr, with the serving of breakfast at Pulham, but clearly neglect to account for the time taken to get to the remote east coast site. For approximately 20 members of the national press and an unknown number of men in the police observation team, boarding entailed a tiring climb up temporary ladders installed in the Pulham mooring mast at 0700hrs. The craft was loaded by scheduled cast-off time of 0730hrs and set off towards the west. R36 made good progress and arrived in the area of Staines by 1030am. At a leisurely 50mph, the cruising speed of the airship, traffic patrolling was neither frantic nor riveting for the passengers.

Shortly after lunch at midday, the 672 foot long craft set off south east for an appointment over the airport at Croydon, Surrey. The largely positive reports of many of the national news reporters, each facing a daily deadline, were bundled together and para-dropped onto the airport. Retrieved they were then taken to the news rooms of the national papers in Fleet Street for inclusion in the following days newspaper reports.

After 6 hours of precise time keeping by the flight crew, most of the authors of those early news reports had been lulled into an assumption that the flight would continue to meet its published 11 hour flight schedule and looked forward to returning to Suffolk at 1830hrs. The inexorable will of the weather ensured that all the fine words parachuted down upon Croydon at noon had turned into untruths by tea-time.

The large craft undertook a somewhat meandering return trip to the vicinity of Ascot and took up traffic observation duties as the crowds started to leave for home at 1600hrs. All this airborne time was beginning to tax the passengers. The situation was exacerbated by a general [and quite understandable] ban on tobacco smoking.

As the R36 headed east at the end of its working day, it found itself dogged by an adverse wind and unable to meet the pre-planned schedule. It was not until 2230hrs, four hours late, that the airship finally docked at the Pulham mast and the weary passengers could finally make their way down the ladders after the 15 hour flight.

In spite of the fact that the majority of the news reports were incorrect, and of some assistance to the government cause, the truth got out and further harmed the few slender chances of disposing of the giant craft into civil ownership.

One important group that might assumed to have a major interest in proceedings remained quiet. The police - for whom the operation was ostensibly laid on - never made public its feelings on the

advisability of using airships for traffic control work. They were hampered in expressing opinions by the spectre of a very strict Discipline Code.

Not greatly pressed by deadlines, the fullest reports on the traffic patrol flight undertaken by R36 were to appear in magazines published up to a week after the event, afforded the luxury of a full overview of the operation from end to end. These stories resulted in a differing opinion being expressed by reporters from the aeronautical magazines "Aeroplane" and "Flight". Both agreed the flight was boring but, whereas the reporter from "Flight" stated quite categorically that the crew of the airship had seen to his every wish, ensuring that he was well fed - in fact over-fed - on the trip; the "Aeroplane" gentleman was quite horrified by the thoughtlessness of the whole set up. The lack of refreshment, particularly food, allied to the extreme boredom adversely slanted the whole of his report. This type of negative reporting was the trademark of the then editor of the magazine, C G Grey. His contrary attitude to all aspects of aviation [particularly police aviation] appeared regularly in the pages under his editorial command. It was a strange attitude for a magazine expected to further the aims and aspirations of flying.

The R33 was brought back for a further attempt at traffic patrolling duties for the Metropolitan Police on the occasion of the annual Royal Air Force Pageant at RAF Hendon on July 21. An additional feature of the day was the appearance of the craft as part of the display, after it had undertaken the first part of its traffic control duties. At one time it was to be seen to be dramatically nosing its way through great clouds of smoke set off to simulate bombing missions by diminutive RAF aircraft, and later during other flying acts, found gyrating with participating aircraft at height.

Unfortunately , the government's heavy subsidy of the three traffic control flights failed to stimulate any commercial interest, in spite of their relative success from the police viewpoint. The weather dogging two of the series, high costs and poor handling experienced aboard all three craft, ensured that the airships were not to see further use in the role. That November both R33 and R34 were placed in storage, joining R36 which had suffered damage in an accident shortly after the Ascot flight. The latter never re-appeared in the skies again. The R33 enjoyed a brief period of further military use later in the decade, prior to finally being broken up. The forward section of the control car from this airship is maintained as a museum exhibit with the RAF Museum, Hendon, North London.

The 1923 Derby Day Races, held on Wednesday June 6, marked the first fully documented Metropolitan Police use of a fixed wing aircraft on traffic duties.

For many years it was believed that a wireless equipped RAF Bristol F2B Fighter bi-plane undertook the trial. Eventually it was found that it was a large and unwieldy single engine civil transport called the Vickers Type 61 Vulcan employed to fly the police over the Epsom Downs.

The Vulcan bi-plane was an unsuccessful type offering a fully enclosed cabin accommodation to its 6-9 passengers. This was a rare luxury for the period, unfortunately this very attribute was little use in the observation role. The police officers inside the cabin were hemmed in by relatively small windows and a forest of struts and wires linking the bi-plane wings.

The 360hp Rolls Royce Eagle engine was insufficient power for the bulk of the Vulcan, leaving it under-powered and incapable of carrying its designed load of passengers to its intended destination, France. Less than a dozen Vulcan's were built, most of the purchasers sending them back to the manufacturer after a brief acquaintance. The blue and silver Vulcan the police used, G-EBBL, had originally served as the type prototype prior to service with Instone Airline Ltd. It first flew in early May 1922, was quickly tested, certified and delivered to the airline at Croydon. Carrying the name "City of Antwerp", it flew a number of return services on the Croydon - Paris route before it ran out of fuel and crashed near Tonbridge six weeks later. It was so badly damaged that it was returned to Vickers for repair. By the time it returned to Croydon in 1923 Instone's had withdrawn the other Vulcan's from service.

Clearly incapable of meeting its airline specification load, for police purposes connected with the

1923 Derby Day the Vulcan was capable of an adequate performance.

The head of B2 Traffic Department at Scotland Yard, 58 years old Superintendent Bassom, was taken aloft along with two police wireless operators and their equipment by Donald Robins the Instone pilot. The police team were in constant touch with Percy Laurie who was in charge of the control room at Epsom. Although it was not a primary player in the operation, Marconi made available the unique Marconi wireless car that was still undertaking experiments with message transmission on the move.

Superintendent Bassom, in charge of the Traffic Department from its 1921 formation, and his small team were in touch with the operators of the wireless sets fitted to the handful of Crossley Tenders normally operated by the first Serious Crime Squad later nicknamed "The Flying Squad".

Previously in service with the RAF, the newly acquired and Marconi wireless telegraphy [W/T] equipped vehicles, although often referred to as cars, were substantial lorries, some with metal bodies but others with a typical goods vehicle canvas tilt body. Both types were fitted with cumbersome folding aerial arrays on the roof. When erected, this feature considerably increased the height of the vehicles, reducing overall mobility. The Epsom operation was undertaken in a static mode, with despatch riders undertaking to re-transmit instructions to traffic affected road junctions. These motor vehicles were the first clear indication of the use of motor vehicles by operational policemen in London. "Flying Squad" they may have been in their time, but the Crossley Tender was a real sluggard. All things are relative.

The aerial component of this operation, the Vulcan, suffered from the aforementioned poor observers visibility and a mediocre wireless performance. The pilot was placed high up and above the wings, giving him good all round vision, albeit restricted downwards. Blessed with a maximum speed of only about 105mph, sluggish and restricted in its banking capabilities, it was a type never designed for observation within the confines of the Epsom Racecourse. Bassom, it was said, was air sick. It was also rumoured that he thought the effort a failure.

Whether or not this event was indeed an additional flight to that mentioned by Laurie in later years or not we may never know. It is certain that he was involved in activities surrounding both the mythical 1920 and the actual 1923 flights. Perhaps the 1920 flight did take place, perhaps this made use of a Bristol Fighter, this leading to the type erroneously being ascribed to the 1923 flight at a later date

The Metropolitan Police Commissioner's Annual Report for the year 1923 spoke highly of the trial's success. The fact that it was never repeated suggests quite the opposite. It is probable that the chosen type, the Vickers Vulcan, was the main mistake. As a failed airliner it is likely that it was offered at an attractive rate by Instone, much in the same manner as the police use of the airships. If a better type had been used in 1923 it is probable that the police would have stayed with fixed wing observation.

Prompted by a visit to the Derby, where he had witnessed the Vulcan aircraft circling above, Viscount Curzon tabled a question in Parliament on June 12, 1923. He enquired of the Parliamentary Secretary to the Transport Minister whether consideration had been given to the taking of aerial photographs of traffic flows in the Metropolitan Police area in order to identify trouble spots. The reply was to the effect that these were not required, the police already undertook such surveys from ground level to produce the same information.

A supplementary question, relating to the possible use by police of surplus photographic prints produced by the RAF in training was also brushed aside. The specific flight in 1921 to produce just such material was neatly side-stepped or, more likely, forgotten. Ten years later the police undertook photography specifically to provide just that information. As a result of this, and other, occasions where free access to military material might have been arranged, in early September 1931 Scotland Yard were enquiring of "Aerofilms", the commercial supplier, with a view to obtain-

ing some photographs of the London area at the considerable cost, for the period, of 2gns [£2.10p] each. It is known that the separate City of London Police undertook business with the company two years earlier for a photo-mosaic of their "Square Mile" of territory. On the grounds of cost, the large scale acquisition of similar material for the whole of the MPD was out of the question.

The Derby flights attracted the attention of other foreign police forces. In August 1923 there was a semi-official enquiry from Inspector (1st. Class) E W Beekman of the Rotterdam Municipality Police into British police aviators. Beekman's personal letter was treated with more than a little suspicion. In those unenlightened days the simplest of enquiries into the workings of police aviation, especially by a foreigner, tended to evoke a response which presumed the worst of motives. In this instance a brief reply was sent via Rotterdam Police Headquarters, a move undoubtedly intended to embarrass the officer.

Having flirted with airships in 1921, on June 4, 1924 a moored military gas filled "kite" observation balloon [another vestige of the Great War] was tried at Epsom. Serviced by a sizeable number of military personnel, the balloon was anchored to a military ground support vehicle parked within the race course over Buckles Gap, about half a mile from the grandstand. Destined to remain in army service for another ten years, it afforded a limited field of vision to the observer, who was then able to transmit to the ground via a clear telephone link. The resulting traffic control sightings for the police operation were passed on by the now usual combination of Crossley Tender mounted W/T and despatch rider. The main observer, carried aloft in the relatively small wickerwork basket slung beneath the gas envelope, was again Arthur Bassom of the Traffic Department. It seems unlikely that he ventured up in the basket of the kite balloon alone, but no other party has ever been mentioned in relation to the flight.

The Commissioner for the Metropolis at that period was Brigadier General Sir William Horwood, GBE, KCB, DSO, a gentleman with army connections which would have extended to the free acquisition of the kite balloon from the military. Predictably, as with previous experiments, the Commissioner's Annual Report declared the experiment a success. Again rumour places doubt upon this as a correct assessment. The view from the basket was severely hampered by poor weather and the necessity of a fixed position. Even in good weather it is doubtful that the observer would have been able to clearly observe traffic flow all around the many roads feeding onto Epsom Downs from all points of the compass. As it was a light mist severely curtailed distant vision. To make matters worse, Bassom is again said to have been air sick.

In 1925 the local police chief requested the return of the kite balloon to Epsom. His request was denied and there was no aerial observation over the racecourse. In this and subsequent years the police relied upon the increasing reliability of the W/T in the Crossley Tenders, allied to an ex-army field telephone system and the despatch riders.

There was an understandable aversion to the police owning and operating unwieldy kite balloon’s. The problems associated in training and maintaining police manpower for a once or twice a year operation were far too many. The effects of weather and the, not fully appreciated, dangers of the hydrogen filling the gas bag were further factors. The continued service life of this type of observation balloon was in any case limited, long replaced by aircraft, it was finally withdrawn from British Army service before 1939.

Superintendent Bassom never retired. Having joined the police as a constable in 1886 he did his very best to stay in the job he so loved. Although able to retire with a full 25 year pension in 1912 he had remained in post. Fellow senior officers held his unequalled knowledge of transportation, his knowledge of London was described as "encyclopaedic", in such esteem that they readily granted him promotion to the rank of Chief Constable in 1925. This was in order that he could thwart compulsory retirement for his rank at the age of 60. Like many others of his ilk, he was a typical workaholic, he failed to defeat the final arbiter of the passage of time. He died, probably through overworking, in January 1926. he was probably one of the few truly indispensable police figures of his time. his knowledge of traffic management and the layout of the streets of Metro-

politan London ensured that his opinion carried great weight at Scotland Yard. Fortunately, before his death, he managed to pass some of his knowledge to police and civil staff in his department.

For a few years the police in Britain effectively turned their backs upon the further active development of police aviation, temporarily leaving further progress to the police in other countries.

Even as this meagre activity had been taking place in the UK a blind eye was being cast in the direction of Germany and Austria. Flying in the face of an edict from the Allies through the Treaty of Versailles, the German police were continuing to fly their war surplus aircraft. Although exact figures are unavailable, there were large numbers of aircraft from the former German Air Corps saved from the bonfires of destruction in 1919.

According to surviving figures, and in spite of an unknown number of crashes in the ensuing five years of peace, in January 1924 the German police had three Flugzeuge, or air squadrons, operating up to 27 machines of Great War vintage. The types employed included the Albatross CIII, Halbestadt CV and LVG CV two seat types, supplemented by nine Albatross DIII and Fokker DVII fighters and two giant Friedrichshafen GIII bombers. The German Police model air arm had, it appears, taken the theme of the abortive British Aerial Police to heart - even to the extent that the large multi-engine bombers were included. The Germans were also involved in air traffic control matters. In a typically Teutonic manner their police involvement in this area was wholehearted when compared with the short lived British version.

The prime reason for the continued existence of the German police air unit lay in the secrecy surrounding it. With most areas of German aviation prohibited by other nations, the police unit became one of the ruses employed to ensure that a civil core for a future Luftwaffe was in being. The other, more extensive, ruses included the undertaking of pilot training in foreign countries, glider schools and the Lufthansa airline. In 1933 the most of the pretence was finally dropped and the world was introduced to a Luftwaffe born from a number of the police units, flying clubs and glider schools. Increasingly equipped with second line military types, a number of the police units remained in the original role and survived into the war years.

Whereas the hierarchy of the British police were clearly taking a rest from exploiting the possibilities of aviation in 1926, one young and far from influential officer in the County of Lancashire was quietly making use of its speed to suit his own ends.

Like his father before him, twenty year old Francis McKenna was a member of the small Blackpool City police force. In 1926 Frank was detailed to travel to the Isle of Man to collect a prisoner. He was not well pleased as this instruction coincided with the holding of a major FA Cup-tie at the Bloomfield Road ground of the local Blackpool Town Football Club.

Unable to stall the move for a day to overcome a mighty inconvenience, Frank took a deep breath and took himself to Squires Gate the modest flying field that then served Blackpool as an airport, as it does now. In an unprecedented move for a British policeman, Frank flew across the Irish Sea the sixty or so miles to the Isle of Man, collected his man and returned to the mainland in record time. The prisoner was safely tucked away in the Blackpool cells long before the important 2.30pm kick off. Unfortunately he was spotted at the match by an inspector who was well aware that by rights the young officer should be standing at the deck rail of a steamer heading slowly westward.

Fortunately no one in the police had foreseen the possibility that anyone would choose to travel by air in such a manner, so the only point of contention was the cost of the exercise. It was eventually acknowledged that the cost of his return journey by air was less than that of a return sea voyage and overnight stay on the island.

In later years Frank McKenna left the police and joined the RAF to fly as an engineer in Lancaster bombers. As a Squadron Leader, he was sent off after VE Day on a successful mission to

trace members of the Nazi Gestapo accused of killing British prisoners of war, only finally returning to the Blackpool Police in sufficient time to ensure that he could collect his police pension, due in 1949.

On Christmas Eve, December 24, 1927 there had been some unseasonable thefts of petrol and supplies in and around Camooweal, in the west of Queensland, Australia. This out of hours shopping activity culminated in the theft of a car. The police were called in and the last known direction of the stolen car reported. A QANTAS aircraft, probably one of the four seat DH50As then operated by the airline, was ordered from Cloncurry, Queensland. Powered by a single 230hp Siddeley Puma engine, the de Havilland DH50 was a bi-plane four seat type of 1923 vintage. Nine examples of a slightly longer, more spacious model, the DH50A was ordered for service with QANTAS. The first machine G-EBIW/G-AUER appeared with the airline at Cloncurry late in 1924. From May 1928 it provided the first Australian "Flying Doctor" service. QANTAS was an airline destined to grow to national carrier status, but in 1927 I was a small State of Queensland airline.

Back in Camooweal, some three hours after the request went out, the aircraft arrived piloted by Capt. Arthur H Affleck, picked up the local police sergeant and the car owner and set course for Headingly Station. The trio flew the 100 miles to arrive in the afternoon. At this point, the armed Affleck, the sergeant and the car owner hired a car and left the aircraft, setting off into an unfamiliar landscape to pursue the thieves.

The trio eventually apprehended four fugitives with the missing car at Lake Nash in Northern Territory. When the identity of the location was discovered the four had to be released as it was out of the Queensland Police Jurisdiction. Having at least retrieved the car, the four were left to their own devices as the pursuers set off back to neighbouring Queensland. Fortunately the nearest water lay inside Queensland and, in seeking the chance to drink, the thieves were duly arrested the following day. Although the pursuing aircraft was not used in the actual arrest of this party of car thieves, and was eclipsed in that it took place long after similar efforts on other continents, it remains a first such event recorded in Australasia.

Coincidentally, in a similar, transportation, type of police usage, during February 1928 Sir William Horwood, in the year of his retirement, discussed with Imperial Airways the chartering of aircraft as a means of conveying Criminal Investigation Department [CID] officers to important British provincial crime cases. In that period calling in "the man from the 'Yard" was a common addition to the investigative manpower of the other forces in the UK. The idea of aircraft charters was not long lived; suggestions that costs would be about eight times that of rail travel effectively quashed the proposal in being "unduly extravagant". One of the types offered by Imperial Airways was the DH50.

Operating at a very low key, the part time NYPD flying operations continued throughout the 1920s. Some small changes had taken place by 1924. According to the New York Times in August of that year, the forty-eight members then enrolled had given up their light blue uniform and were now equipped with a garb of dark blue, similar to that worn by the regular police. Under the leadership of Inspector General Charles H McKinney, the patrol area for this force was bounded by Norton's Point, Sandy Hook and Staten Island, with the flying base at the southernmost point of this area, Fort Hamilton.

The assistance of Admiral Plunkett, USN, had allowed the police reservists to make use of four aircraft at the weekends, pilots of the Naval Reserve under Captain Henrahan, USN, also being allocated. In spite of these resources, the primary aim of this unit remained that of instruction rather than specific law enforcement operations. In the Times report it was claimed that the first ever instance of an errant aviator being prosecuted for low flying took place on Saturday July 26, 1924. This claim, if true, suggests that this aviation unit was extremely laid back - one such case in 5 years! Because many are unaware of the police flying activity in New York from 1918, a state of affairs led by a reticence to place great store by a part-time unpaid formation, there remain conflicting claims for the first police air operation in the USA. This state of affairs was clearly ex-

acerbated by a clear lack of results.

At the end of the 1920s, an increasing sense of annoyance was expressed at continual nuisance caused by reckless and incompetent flyers. These barnstorming aviators were treating the population of the *Big Apple* as a captive audience to whom they could show off at will. Eight deaths and twenty one injuries had been caused. Faced with complaints from the people of New York, the hierarchy in the NYPD were clearly unhappy with the casual service rendered by the existing part time air service in the city, presumably their restricted hours of availability only exacerbated the situation.

The Police Commissioner proposed making the registration of aircraft with the Police Department mandatory, but many pointed out that this would be unworkable with aircraft travelling so fast that they would be virtually unobservable, travelling in and out of his police area in a matter of minutes. Beyond the police reserve aircraft, other aircraft were already in ad-hoc use in New York. Early in 1930 an unmarked machine believed to have been a Loening, was used by a party of regular police officers in a protracted search and detain operation involving a tug steaming south from Connecticut to the Cape Cod Canal, New York. The captain of this vessel was arrested by the amphibian in the calm waters of the Cape Cod Canal, the first time this was said to have occurred in the history of NYPD flying.

As if the previous, well publicised, unit had never existed, on October 24, 1929 the Police Commissioner of the NYPD, Grover Whalen, unilaterally created what was believed to be "the first police air service in the world". The disregard of its forebear can only be explained by acknowledging a deep rooted dislike of unpaid police reserves by regular officers. It also neatly ignored the situation in mainland Europe.

The new creation did not become fully operational until March 28 the following year. The new NYPD Air Service Division was initially staffed by 12 pilots and 24 mechanics, it being laid down that fully qualified regular police officers would undertake all major tasks. The strength of the unit remained fairly constant at this level for many years.

The first aircraft were three single engine Savoia-Marchetti S-56 flying boats, these supplemented by a single Loening Commuter of similar specification. Each of the flying boat aircraft was built in New York State and reflected current USN and Coast Guard thinking of the time. All was not water-borne however, New York did operate a single Fleet two-seat bi-plane The unit base was the Glenn H Curtiss Airport at North Beach. As a publicity exercise to present them to local tax payers, the three S-56 were paraded through the city on the backs of lorries in June 1930. The arrival of this unit was hailed as an immediate success and the majority of free air shows ceased immediately. There remained a widespread problem with rogue elements of aviation in the United States. Most of it was set for solution at the door of the State and Federal legislature, but many areas were still lagging behind. As was already clear, in the meantime it was the police that were presented with finding day to day solutions.

The other long time US claimant to the creation of the first police air unit was the office of the Los Angeles County Sheriff, California. The original Sheriff's Aero Squadron, was initially formed on September 27, 1926 when the first five volunteer pilots were sworn in as Deputy Air Sheriff's by Sheriff William I. Traeger at Aero Corporation Airport in Los Angeles. The oath of deputy sheriff was administered to Paul E. Richter, Jr., W. Jack Frye, Monte Edwards, Walter A. Hamilton and Lee Wiley, following an inspection of their aircraft and equipment by the sheriff. After the ceremony, the newly deputised Air Sheriff’s along with Sheriff Traeger, took-off in formation with the *Alexander Eagle-rock*, the Sheriff's official plane in the lead. The flight executed several maneuvers demonstrating how they expected to pursue and apprehend fugitives with the aid of other deputies pursuing in automobiles and on horseback.

In the Autumn of 1929, The Secretary, Aviation Section, Commonwealth Club of California, wrote to the Air Ministry in London inquiring into information about the arrangements in Britain "as regards Air Police". Seeking an authoritative answer, the enquiry crossed Whitehall and found its

way to the Metropolitan Police at New Scotland Yard. The request fell upon the desk of the B2 Traffic department aviation expert for a reply. Sidney J Chamberlain DFC, a 33 year old ex-RNAS and RAF Great War bomber pilot, had been working with the police traffic department on a variety of air projects in the decade since the war as one of the protégé's of the late Chief Constable Bassom. Employed in a civilian capacity, Chamberlain's duties included involvement in the aerodrome licensing scheme, various airline experiments flying aircraft from the River Thames at Westminster, London, and a variety of often ill thought out aerial advertising schemes. It was he that had been given the task of sending the embarrassing reply to the Rotterdam police inspector in 1923. Sidney Chamberlain was destined to take a leading role in British police aviation over the next thirty years.

Chamberlain's dealings with the Californian matter resulted in correspondence ensuing between himself and the Air Ministry, enabling the latter to formulate a suitable reply. Disregarding the inclination towards secrecy, the moribund state of British police aviation at that time can have resulted in little useful information passing to the US West Coast.

At that stage the existing LACS operation was expanded - apparently aided by enquiries such as the one to London. The Sheriff, Eugene Biscailuz, ordered the creation of an "Aero Detail" to seek to enforce a new California Air Navigation Act. Claude E Morgan, a former wartime flyer and a Major in the United States Aviation Reserve Corps, as well as Deputy Sheriff, was assigned the task of putting this idea with form into operation. There had been no similar venture attempted before by a US Sheriff’s Office and there were to be no funds available. Fortunately he managed to find several aircraft owning civilians willing to assist him in his task, he was to become the first Captain of the Sheriff’s Airplane Detail. Originally intended to investigate thefts and other crimes connected with the air industry, this small band expanded its duties to include occasionally undertaking flights in support of search and rescue needs. What Morgan had been set to form was not new, except perhaps for a Sheriff’s Office in California, it was just a variation on the New York operations commenced in 1918.

Where the new Los Angeles operation differed was in that it worked far more efficiently, a factor which aided its medium term longevity. Operations undertaken included search and rescue in the extensive area the Sheriff's Department was responsible for. It was just such a mission, damage reporting when over-flying an earthquake which devastated parts of Long Beach during March 1933, that led to the initial arrangement being placed on a more substantive footing. In June 1933, whilst still a volunteer based operation, it was given a greater degree of permanence by the creation of a core unit consisting of 25 aircraft designated “The Sheriff's Aero Squadron". This unit had regular Sheriff's officers assigned to it. The group continued to grow until at one time it could call upon some 100 private pilots, a feat that was not too difficult to achieve in an area blessed with more than 500 registered aircraft flying from 55 pre-war airfields.

In the same period the City of Los Angeles Police, devoid of its own air unit, recruited members of the Women's Air Reserve [WAR] as auxiliary police officers. This, like its New York forebear, was very much a part-time voluntary effort and exhibited many of the drawbacks eventually accepted as causing the demise of the East Coast operation.

A WAR member, Mary Charles, arranged with the Chief of Police James E Davis for five fellow members to be taken on as honorary aero policewomen around 1931. Presented with police badges and identity cards the five were allowed to use the Police Academy shooting ranges for target practice. On Sundays, the WAR enjoyed the use of three Fleet aircraft for a variety of exercises primarily designed to train them for improved flying skills and emergency procedures that might stand them in good stead in time of war. History has not recorded any direct involvement by them in police air support related activities.

On July 11, 1929 the British Aeronautical magazine "Flight" announced that the French Prefect of Police, M Chiappe, had stated that an "Air Police Force" would be formed. This development created a great deal of media interest until it was realised that this apparent further European lead in police aeronautics was not all it seemed. It transpired that M Chiappe's announcement was in-

tended to convey the formation of a squad of wireless air waves snoopers tasked with the detection of persistent secret messages being sent on the short wavelength. In the light of the war a decade later, this appears to have been a well founded form of paranoia, later associated in the USA with McCarthyism. In spite of the impression given by the title, it was not police aviation.

It is unlikely that the same can be said of a projected police air arm in Argentina. In October 1930 this police unit, centred upon the capital Buenos Aires, was announced but little is known of its size, equipment or longevity.

Throughout the majority of the 1920s in the UK the Essex based Marconi Company had striven to improve its products, the natural successors of the equipment pioneered by the man who invented the equipment. The company continued the research of speech transmission with the intention of marketing a useable system for civil and military use as soon as practicable. Whereas police experiments with aircraft were largely dormant, a number of police employees were directly involved with the efforts of Marconi. Efforts that were to eventually produce equipment useful to he police.

One such police employee was Harold Charles Kenworthy, a man who was to police wireless what Bassom had reputedly been to roads. Initially on loan from the Marconi Company, it was he who had coaxed the Metropolitan Police into the efficient use of wireless, setting up initial static equipment in New Scotland Yard and then working "hands on" with the conversion of the Crossley Tenders. By 1929 he had become a civil employee of the police. He formed the prime link between the police force and his previous employer during the early trials, his past connection with them leading to a number of free loans of equipment.

Harold Kenworthy was invited to witness the demonstration of an early version of airborne facsimile transmission [FAX] equipment at Croydon and Chelmsford. On September 18, 1930, a select gathering of police and military arrived at Croydon, south of London, to inspect the trial aircraft. At this period Marconi had the use of an ex-military Bristol F2B Fighter G-EBIO at Croydon for a variety of trial installations. Owned by the Aircraft Disposal Company, the Bristol was their Croydon based demonstrator aircraft when not undertaking trials for Marconi equipment. Most of the visitors were allowed to provide their own illustration or script on specially treated paper for the crew of the Bristol to transmit. The business at Croydon finalised, Marconi then transported the viewing party by rail to Headquarters at Broomfield, Chelmsford, Essex, to witness the quality of the subsequent airborne FAX transmission.

Based on the wireless telegraph and the special paper, the image was "read" by a tuning fork arrangement. Kenworthy chose to give the flight crew a simple drawing of one of the Crossley Tenders with the words "The police van as seen in London and other places" beneath it. Though crude, the equipment worked very well, and the airborne Bristol transmitted the selection of prepared images across the southern and eastern parts of suburban London, almost 40 miles to Chelmsford. An almost perfect example of Kenworthy's image was picked up. The only distortion being to the upper portion of the picture. Bearing in mind that this was 1930 it was a truly remarkable feat.

A similar trial facsimile transmission was shown to officials at New Scotland Yard. This being set up to send photographs within the building. The great cost, £2,000 even then, tempered any positive reaction to the equipment. It is an historic fact that Marconi never did develop their FAX equipment very far, presumably due to the war as well as the cost. No company files survive and, the only surviving written reference to the airborne test is a brief mention, the treated paper image and the received picture, in a police file. The rest was left to post war technology and the needs of the Japanese people.

CHAPTER TWO

The Thirties

There never was to be any substantial British lead in the advancement of police aircraft use at this or any other period in time. The possibility of the UK re-examining the uses of aerial observation was not completely forgotten in the late 1920s, but even the most promising moves came to naught. As the 1920s closed the Metropolitan Police Commissioner was General the Right Honourable the Viscount Byng of Vimy, GCB, GCMG, MVO, LL. D. This Commissioner was approaching the end of his tenure by the time he wrote that he was in contact with "someone quite well known in the aviation field", with a view to further advance police aviation in London by the creation of some form of police aviation section. Unfortunately, like so many ideas of this period, this scheme was abandoned and the true identity of the mystery figure was never made known.

In complete contrast, the 1930s Metropolitan Police, London, was perceived to be a very air minded police force, a state of affairs reinforced by the fact that in the early part of the decade the Commissioner of Police for the Metropolis, replacing Byng, was the former Marshall of the Royal Air Force, The Lord Trenchard GCB, DSO, DCI, LL. D. He served as the head of the London police from 1931 to 1935, bringing about many changes including a request that some of his previous RAF aides should be brought in to assist him at New Scotland Yard.

He is remembered for his period in the police service mainly for a status based upon his prior activity in the RAF. As yet another military man, it is doubtful that he ever understood the majority of the policemen serving under him, for theirs was an occupation typified by individuality rather than the general concept of mass obedience and action in the military.

A major change Trenchard did bring with him was to bring about a brief change in the fortunes of police aviation in the United Kingdom - this being primarily served by the ability of his status to attract the aeronautical equivalent of the complimentary ticket.

Late in 1931 another of the then still quite plentiful aircraft companies sent a representative to raise a glimmer of interest in the gloomy corridors of New Scotland Yard. Miss Joan Page of the Redwing Aircraft Co. Ltd., came with a suggestion that a (Metropolitan) Police Flying Club might be set up using facilities already available to the proposer. The timing of the visit was badly judged. Newly in office, and still finding his footing, although enthusiastic, Trenchard considered that any moves on his part to propose that junior officers spend some of their lesser earnings on flying would not be politic. This view was reinforced by the then current cuts in police pay brought about in response to the dire state of the business economy.

The proposal brought to the police hierarchy by Miss Page was in itself quite affordable. Based on 1,500 members, each paying 6d (2.5p) weekly, it was projected that members would be able to gain a pilots licence for only £5.10s.0d each, the equivalent of a constable's weekly wage. Redwing Aircraft, a small company from Croydon, south of London, built a few light training aeroplanes of their own design before fading from view.

Someone in the same field, possible Miss Page of Redwing again, led five constables stationed on the "D" Division in Central London to propose an almost identical scheme to senior officers in November 1931. Among the additional aspects included in this new version was a claimed bonus whereby, in a period when the use of motor vehicles remained a relative novelty, police might gain a greater number of trained road vehicle drivers at no cost to the exchequer.

With the flying club idea now being proposed from the "shop floor" as it were, the Commissioner and other senior ranks at Scotland Yard felt themselves able to fully investigate the possibilities of this Metropolitan Police Flying and Motor Club. It was a drawn out process, but popular, it being claimed that more than 3,000 officers and civil staff had declared support by August 1935.

The primary obstacle highlighted was that it was unlikely that the Air Ministry would provide the £25 subsidy for trained police reserve pilots, as they did civil flying clubs. The money was designed to create a body of trained pilots that might be called upon in time of war. At that stage there was a strong, but ultimately flawed, belief that police officers would not be called up to serve in the RAF in case of war. Without such a subsidy it was thought that the membership and flight cost figures quoted would no longer be adequate. Primarily due to this factor the enquiry fizzled out in November 1937.

The Redwing proposals were not in themselves defective, and readily found favour in other areas, with other groups. The employees of the predecessor of London Transport, The London General Omnibus Company [LGOC] were presented with a similar deal based upon 6d [2.5p] a week in 1931. In this case they set up a highly successful LGOC Flying Club at Broxbourne Airfield, Nazeing, Essex, initially with a Redwing aircraft. Party assisted by the RAF subsidy the bus company employees, some one thousand members, were able to learn to fly for 20% of the usual cost.

It was the emergence of the Cierva Autogiro as a viable demonstration of rotary wing supported flight, the autogyro, that again brought the police in London to the forefront of police aviation development.

The key figure in the perfection of rotary wing flight was the Spaniard Juan de la Cierva. The machine that he invented and patented as the Autogiro was then known as a gyroplane. Influenced by Cierva's patent name we now know it as the autogyro. Often assumed by laymen to be a form of helicopter, it was in many ways just one highly important stage in the development of the ultimate - vertical take-off and landing and hovering.

In this type of machine, the lifting rotor, the visible hallmark of the vertical lift helicopter, is unpowered. In the autogyro, lift is generated by the freely windmilling rotor as an engine powers a conventional propeller to drive it through the air. Even in its developed form, later examples could not perform all the manoeuvres associated with its cousin the helicopter. A vertical "jump" take off was eventually achieved, and a vertical landing was reasonably easy. There was no ability to hover, without the availability of a powered directional control, such as a tail rotor, the type required the maintenance of a measure of forward speed, at least 25mph, to enable the pilot to retain control at all times. One area where the autogyro was to excel in comparison with the helicopter was safety. In its heyday it was claimed that the technology offered the safest form of air travel. Minor accidents have occurred with this form of air travel, but generally the claim has never been seriously disputed. The common point of mechanical failure of both types lay in the loss of the main rotor, whereas the helicopter might fail on numerous addition areas such as engines, gearbox and tail rotor.

The Cierva Company originated in Spain with early examples of the concept being built there from 1920. The major advances in rotor technology that were to prove the viability of the concept were developed in his home country. It had proven relatively simple to design a craft with vertical lift but, fitted with rigid rotors, these designs did not work efficiently in forward flight. As they rotate under horizontal motion the rotor blades travel at different speeds and need different angles of attack when advancing or retreating in the rotor arc. In his design of 1922 Cierva was the first to allow the rotor blades to flap freely and therefore naturally find their optimum angle of attack throughout.

In seeking a wider market for his craft, in 1925, Cierva moved to set up his business in Britain. The Cierva Company remained small and primarily based at a grass airstrip at Hanworth, west of

London. This airfield was known by a variety of names, including Feltham and The London Air Park. It still exists as open space.

Cierva did not seek to manufacture his own aircraft in quantity at Hanworth, most were to be built elsewhere, many under licence by the giant Avro Aircraft. The whole concept of this pre-helicopter design was new and evolving, as a result the Hanworth site housed the main activities of the company, design, development and the Cierva Autogiro Flying School.

Sensing that the time and the product were right for an onslaught on the yet to be defined police market, Cierva sent details of the performance of his patented Autogiro to the Criminal Investigation Department [CID] at New Scotland Yard in 1931. Although the CID were not themselves impressed, their rejection did not stop the correspondence reaching another section, this group quickly showing interest. The B, Traffic, Department corresponded with the Cierva factory and this led to the employment of a Cierva C.19 Mark IV Autogiro for traffic control duties at the 1932 Derby Day Races.

The Cierva C19 Mark IV was a low wing, single engine, two seat machine with a 34 foot, free-wheeling rotor which featured the articulated blades. The 105hp Armstrong Siddeley Genet radial engine was capable of taking the autogyro to a maximum speed of 105mph, although the types ability to almost hover at a speed of 25mph was of far greater value in police patrol. The position of the observer's cockpit was the prime drawback of the design. Whereas the pilot enjoyed a relatively clear all round view from the rear seat, the observer did not. The forward position was surrounded by four thick pillars supporting the rotor assembly and further hemmed in by the presence of a substantial wing directly below this cockpit space. In this model the wing was an integral part of the design's ability to fly. The type could fly slowly with little difficulty, but vision was restricted to the front and rear quarters. The use of airborne cameras -and therefore wider use by police - was to be held back until he arrival of an improved, wingless, model in 1934. In spite of these restrictions, many only apparent in retrospect, the C19 offered excellent prospects for police air observation.

The Traffic Department may have picked up the lead from Cierva, but it was to be Trenchard who set the wheels turning and became the force behind all the subsequent experiments. On February 16th. 1932 he wrote to an assistant commissioner:-
"I would like you to go into the possibilities of sending up an officer as observer in one of these [autogyro] machines for traffic control purposes. Not, I think, on the occasion of the Royal Air Force Display at Hendon, as it might get in the way of the aeroplanes taking part in the very complicated manoeuvres that take place .... I think the experiment might be tried well away from the racecourse at Epsom, during Derby week .... in order to find out what use could be made of these machines from the traffic control point of view ...."

The two seat autogyro was crewed by a pair of police employees. Acting as pilot was to be Flight Lieutenant Ralph Eric Herbert Allen, AMIAE, MIAeE, RAFO, a 40 year old active pilot in the Reserve since 1928, and employed by the police as Assistant Engineer to the Receiver. By the terms of a Cierva proposal of April 8, Allen was originally intended to act as observer to the manufacturers pilot. With him elevated to the flying the autogyro, it fell to Sidney Chamberlain of B2 to take over the observer role. It was Sidney who had first correctly highlighted the possibility that Cierva might be persuaded to loan the C19 as an advertising ploy. It was timely given advice.

Allen took up the flying task with very few hours on the type - merely a short course of instruction which had included half an hour dual instruction in another C19 mark IV, G-ABUC, on May 29. This was only the second experience he had of the new generation of flying machine. The previous December he had briefly flown in one of them as a passenger. This sparse type introduction of what was undoubtedly a major diversification in flying skills indicates both the high quality of Allen as a pilot and of the less stringent requirements of the time. After two days of flying, G-ABUD, the machine loaned for the Derby Day flying, he was in command of the valuable machine and operating it for lengthy periods over the Epsom Downs.

As predicted by Sidney Chamberlain, the Cierva chosen for this historic flight was loaned to the police without charge. Although used for a significant number of hours, with training, familiarisation and operational time accrued, the only assessment made was to cover insurance and for the hire of the Marconi Wireless Telegraph Co., wireless used by the observer. Marconi only charged £10 for the hire of their wireless set, they again saw themselves reaping other marketing benefit from the police use. The same, less understandable, lack of financial return beset the General Post Office [GPO] and the Air Ministry. Neither made charges for licensing and approving the new equipment. In spite of the considerable saving made, there were still a few in New Scotland Yard who disputed the cost and advisability of the insurance premium charged for underwriting the well being of Allen and Chamberlain.

The heavy wireless in use, two substantial valve filled boxes with a weight of a little over 65 lbs., required a special Certificate of Airworthiness [CoA] for low flying and over-loading. With the modified Marconi AD22 and SP3 man portable sets installed in the forward cockpit area, Chamberlain was able to pass and receive speech transmissions. It is believed that he rarely chose to operate morse, although a number of other police employees did. This early set featured a reduced transmission range, a characteristic intended to diminish the likelihood of interference over any great distances. Expecting that the signals would be poor, it was arranged that the autogyro would transmit to its own special Radio Telephony [R/T] van, another freely provided facility from Marconi. This veteran of many voice transmission experiments was suitably placed beside the police Crossley Tenders on the Epsom turf. The results of the transmission were then to be passed on to the officers in the police vehicles and sent off to road control points by means of the dispatch riders or by morse to other wireless receivers by the stronger, clearer, transmissions of Wireless Telegraphy [W/T].

Unfortunately, on the day practice proved that far from being instant, speech transmissions under operational conditions were somewhat slower than the morse transmissions of experts. In addition it was found that in spite of the elaborate precautions, the speech transmissions were indeed interfering with the signals from the ground based W/T sets. The problem was quickly overcome, but not before the operators had managed to produce a range of moans about "new fangled things".

The autogyro was intended to cover a two hour period during which the crowd assembled, followed by a similar period as the race-goers left after the last race of the day. Arriving at Croydon at just before 1045hrs, after a short flight from Hanworth, it waited an hour before starting operations at 1140hrs because of slight mist.

In line with the "well clear" suggestion made by Trenchard, the crew planned to patrol a 17 miles elliptical course around the Downs with the major portion to the north, or London, side. In practice this ellipse was reduced to 12 miles; the novel new type of machine proving far more nimble than the planning had allowed for. Still, it was not possible to approach close to the racecourse either before or during the races, the nearest pass being about one mile south of the Grandstand. Sightings by the observer were recorded in coloured ink on a number of maps. To assist the subsequent debriefing, these maps were changed every fifteen minutes. A variety of messages were sent off reporting traffic conditions in the mist shrouded approaches.

Chamberlain became air sick at about 1250hrs. This debilitation grew so bad that the machine had to return to Croydon to let the observer recover during an early refuelling break. This unavoidable incident caused them to miss providing air cover to the arrival of the Royal Party attending the course. With Chamberlain still unwell after the completion of the refuelling, the remaining 20 minutes observation of the morning session was undertaken by Mr. Whistlecroft, the resident engineer from the Marconi station at Croydon.

The police observer had recovered from his unexplained bout of sickness by 1640hrs, the take-off time for the evening session. The autogyro was on station near Epsom at 1700hrs as the first of the race-goers started to make an early exit to avoid the worst of the subsequent traffic jams.

Within half an hour the main body of the homeward bound crowds had brought the road to a virtual halt. After an intensive period of traffic spotting, and regardless of the still busy roadways, the police machine was forced to return to Croydon by a diminishing fuel supply. After a little over two hours aloft, they landed at 1845hrs.

Some newspapers excelled themselves in a penchant for adventurous reporting of this historic first operational use of the autogyro in police work. A series of fanciful descriptions appeared in print as the more adventurous reporters let rip with their imaginations. The "Evening Standard" on June 1 saw fit to report that the autogyro was fitted with a giant "spy glass" in its floor. This fantastic device was fitted to enable the crew to focus upon an equally outsize rendition of the Royal coat of arms adorning the roof of the King's car. This apparition disregarded the existing problems that were already being created by the weight penalties associated with the carriage of the wireless. Such a large glass lens would have weighed hundreds of pounds. It and the roof markings were pure imagination.

Other newspapers reported graphically upon a period of excitement supposedly entering the proceedings towards the end of the day. The report claimed that the customary presence of a large number of the gypsy fraternity erupted into violence between rival factions at the close of the racing. The crew of the police machine were able to alert ground based units to the fighting, and an old fashioned baton charge by mounted and foot officers quickly quelled the disturbance and affected a number of arrests. Whether this skirmish reached the levels of riot reported subsequently reported is debatable, the whole incident certainly received no attention whatsoever in Chamberlain's subsequent report on the flight.

The long overdue re-birth of police flying interest in the UK in 1932 was not confined to the Metropolitan Police. A few days after the Epsom Races, on June 18, the small, 224 man, Leicestershire Police briefly acquired the use of a de Havilland Moth from Ratcliffe, the private airfield owned by Mr. Lindsay Everard MP, to effect the first recorded UK use of an aircraft for crime detection rather than traffic control.

The Chief Constable of the County of Leicestershire, 42 year old Captain Cecil E Lynch-Blosse, was a member of the local Leicestershire Flying Club, it was therefore relatively easy for Superintendent W C Rigby to approach them and obtain the use of an aircraft on loan when the need unexpectedly arose that day. Lynch-Blosse was a man with extensive personal experience of flying, leading to numerous experiments in police flying and a consequent wish that he remained in touch with all aspects of police aviation during his tenure of the post [1928-49]. The area was policed by two forces, the City of Leicester and the County of Leicester. Both were small, each with around 250 men in comparison with the 20,000 men with the Metropolitan Police. Although often having to make do with the crumbs from the larger force's table, Lynch-Blosse's enthusiasm often placed his force in the forefront of technology.

On this occasion, open countryside between Hinckley and Desford was searched from the air by this borrowed aircraft after two men were disturbed breaking into a factory at Earl Shilton. Although the other was never seen by the crew of the Moth, one of the men was arrested after running out of woodland whilst the circling aircraft was present. He was subsequently sentenced to 21 months hard labour for the factory breaking, a salutary lesson for such a foolhardy dash. The use of the aircraft was not proclaimed as the principal reason for the arrest by the police, however it was not a point missed by the press and the incident received a good measure of immediate publicity. Leicester cannot lay claim to any first use in the detection of crime other than in the UK, across the globe there were many prior examples.

For example, two months earlier in New South Wales, Australia, on April 16, 1932 the local police employed two men, Littlejohn and McKeachnie, to go aloft in a similar Moth aircraft on crime detection duties. On this occasion the search for the fugitive, flown over the Moorebank area to the west of Bankstown, failed to result in any arrests. It may have been a first on that continent - although it seems unlikely - but it was overshadowed by many other incidents.

Back in Britain, on the same day as the Leicester search and arrest, National Flying Services [NFS], a commercial neighbour of Cierva's at Hanworth, wrote to New Scotland Yard informing them of a forthcoming visit by the German airship "Graf Zeppelin" to Hanworth. The visit was scheduled to take place on Saturday and Sunday, July 2 and 3. NFS offered the police free use of an autogyro to assist them in traffic and crowd control at what was fully expected to be a very popular event. The police were initially interested, but when it became clear that the machine was not being offered with a wireless installed (undoubtedly due to cost and airworthiness considerations) the loan was declined. The traffic control operation was left wholly to ground units who dealt admirably with the event.

The scheduled day of arrival for the giant airship, the Saturday, was made up of aircraft displays of a conventional kind, displays primarily designed to entertain the thousands making up the waiting crowds, a number of whom were to be employed in handling the craft.

Accompanied by the equally interesting Junkers G.38 "flying wing" airliner, the giant airship arrived overhead the west London airfield late in the afternoon. Following an over flight and short journey towards Brooklands it returned to take on passengers. Although the giant airship settled over Hanworth with no difficulty in good weather it displayed the innate problem of all airships in requiring a handling party of some 200 Middlesex Rover Scouts, and others, to grasp the handling ropes and steady and anchor it for what was only a short stay.

After changing passengers, the airship left Hanworth for a cruise around England, paying a first visit to the newly-opened Municipal aerodrome at Portsmouth. The rest of the cruise included a flight up the east coast toward Scotland during the Saturday night, and returning to Hanworth via Edinburgh, Glasgow, Liverpool and the Severn Estuary the following day. After a London sightseeing trip "Graf Zeppelin" returned to Hanworth to again change passengers before finally setting off on its return to Germany on the Sunday evening.

A few years later, NFS submitted another unsuccessful proposal to the Metropolitan Police. On this later occasion it was proposed that the company might train police officers as pilots. Along with a number of other similar proposals put forward over the decades, this was investigated by the police at some length. Although an acceptable option in many other countries, each such proposal was rejected on the assumption that any police officer so trained was liable to leave the service for the considerably enhanced pilots remuneration elsewhere.

Ignored since the use of the R33 airship in 1921, in June 1932, the vehicles and crowds attending the annual Royal Air Force air display at Hendon were afforded the assistance of a fixed wing aircraft on traffic control duty. On this occasion the means by which this crowd observation was arranged was placed in the hands of the event hosts, the RAF. Among the display stars at the show were 2 Squadron, a Manston, Kent, based army co-operation unit equipped with the Armstrong Whitworth Atlas bi-plane. One of these aircraft was detached and, flown by Flt. Lt. William Eyles Knowlden, tasked with the traffic task. As the Atlas was a substantial two seat type it might have been expected that Knowlden might have relied upon an observer to operate the wireless. Chamberlain specifically stated in a later report that the Atlas was flown solo by Knowlden, this therefore indicating that the pilot undertook both tasks.

A repeat of the RAF traffic reporting sortie over the traffic approaching Hendon was scheduled for the 1933 event. On this occasion it was proposed to include a police observer but some unforeseen official difficulty arose and the RAF again undertook the whole task. After flying from 1300hrs to 1500hrs in difficult conditions the aircraft was instructed to return to Northolt as the main flying programme was starting. The hapless pilot got lost and was forced to make an unscheduled landing prior to again, successfully, setting off for Northolt. The whole affair served to confirm a widespread RAF opinion that the traffic flight was not a necessary adjunct to the Hendon display.

Alerted by a combination of the brief Leicester experience and mindful of the Derby traffic operations to the possibilities afforded to police by the autogyro formula, West Sussex Constabulary

mooted the idea of using the rotor-craft in the deterrence of crime as opposed to traffic. Nothing came of this proposal in the small southern county force, it was too advanced a concept for the planners of the time and money remained scarce. In line with the dismissive attitude of the London CID a year earlier, even the active air units were facing great difficulties in widening aircraft use to the crime arena.

Traffic observation duties remained firmly in vogue. The previous success of the Cierva used by the police at the Epsom Derby ensured its return on May 31, 1933. Another Cierva C.19 mark IV, this time G-ABUF, undertook the task with the same crew of Allen and Chamberlain. The Derby Day traffic was circled from 1125hrs until 1305hrs as the crowds gathered for the event. On this occasion it was possible to survey and guard the Royal Route prior to the scheduled return to Croydon for refuelling. The second, afternoon, flight was a short affair taken at 1450hrs, prior to a refuel at Croydon, the taking of tea and making preparations for the important evening flight over the crowd dispersal. The evening flight was delayed until 1715hrs in the light of the previous years experience, of an early take-off and a shortening fuel state at a critical stage of the crowd dispersal. Although the area around the course soon became clear, the patrol area of the machine widened to compensate until it finally allowed the Cierva to return to a landing at 1855hrs.

The police in the adjoining County of Surrey were also affected by the traffic problems dogging the Epsom Races. Like the Metropolitan Police they were also tasked with undertaking similar duties in relation to the Races at Ascot. The R36 airship flight a dozen years earlier had been a joint experiment over Ascot, but they were now leaving Epsom flights to the police in London, as they undertook their own aircraft trials aimed at serving them in their duties relative to roads approaching Ascot.

The contractor chosen to assist them with these trials was the Brooklands School of Flying, a civil flying school operating a number of light aircraft out of Brooklands airfield. The prime pilot for these sorties was one of the company director's Flt. Lt. Duncan Davis. At first the police undertook a bandit car chase trial using a de Havilland Puss Moth high wing monoplane tracking a car on roads near Egham. According to observers attending from other police forces this was a far from representative trial in that the aircraft was not equipped with a wireless, or any other messaging system. The aircraft of the Brooklands fleet were small and, unlike the Cierva, unable to accommodate a heavy wireless. The climax of the trial, a foregone conclusion, was arranged prior to the flight.

It fell to an Ascot race meeting falling on June 14, 1933 to host a first operational trial for Surrey police. The event was covered by using a Brooklands de Havilland Moth flown by Duncan Davis with an unidentified police sergeant acting as observer. In order to resolve the criticism about the lack of communication, the aircraft carried a number of weighted message bags for dropping notes relating to the sergeant's observations to those on the ground. Three control posts, each with police motorcyclists and Boy Scout runners, were set up along the Sunningdale-Egham main road, as contact points. The aircraft could pass messages to those on the ground well enough, but no similar method of passing clear instructions to those in the air was evolved until wireless was light enough to allow such light aircraft to undertake the duty. The trial went well enough, but it was severely hampered by the chosen method of message transmission and as far as can be ascertained it was never repeated operationally. Surrey Constabulary continued to undertake experimentation with aircraft into 1934. Unfortunately surviving records fail to identify the type of aircraft operated or of the duration of these operations.

In October 1933, Reginald Brie, the test pilot and flying manager for Cierva was taken to court for dangerous flying in one of the company autogyro’s. It had been Brie who had introduced the police pilot Allen to flying the autogyro the previous year. History was to prove that his continued association with the police was to go well beyond the Cierva product into the helicopter age so that the case in 1933 was somewhat of an embarrassment.

A policeman had reported the autogyro for flying at 50 feet above the Kingston bypass as it undertook a steep angle landing approach into Hook airfield. Presented with the policeman's story

the Bench at Kingston Petty Sessions found against the pilot and fined £5 with £5 5s [£5.25p] costs. Brie appealed against the decision. To the relief of both pilot and the future security of the autogyro and its designer the appeal was allowed and the decision reversed at Surrey Quarter Sessions. Costs were awarded. The higher court was convinced that the manoeuvre, specifically applicable to the flight characteristics of the autogyro concept, presented no danger. The policeman was right in his initial action, but so were pilot and craft!

Aided by the Cierva company the ranks of the press were again undertaking voyages into fantasy related to the future of the autogyro and police flight. Still a novel form of transport, fanciful ideas were constantly being put forward, many in the mould of the 1932 "spy glass" affair. For police use it was envisaged that the ability of the type to almost hover would enable rotary wing police to actively direct traffic on the roads below. Variations on this theme envisaged police in full uniform perched upon telegraph poles directing aeroplanes as if they were motor cars. Futuristic cinema movies of the day, duly assisted by loose terminology at Cierva company briefings, further inspired reporters to believe it was actually feasible for a policeman to physically take an active part in all of these strange traffic control duties.

Early in November 1933 the Cierva Company invited interested parties, including police, to view their new model C30 Autogiro. This model was a far cleaner design, but was still a typical example of 1930s aeronautical technology, metal tubing covered in painted canvas behind a noisy radial engine only slightly more powerful than the C19. At last the large and intrusive auxiliary wing was deleted, thereby holding out the promise of a far superior view for the observer. Technically the C30 was an entirely new machine, the featuring of attitude control by the use of a tilting rotor head allowed the deletion of the main wings and was another stage in the quest for the true helicopter. The C30 still did not feature a vertical lift capability, but development continued.

The type had been flying for most of the year in prototype form and the November show was the first available opportunity for displaying a machine more clearly representative of the finished product. The impending availability of the C30 for the 1934 flying season showed clear promise. The exhibited C30, G-ACKA, was shown to the police on November 2, some days prior to public and press demonstrations held on November 8 and 15.

On the eve of adopting the C30, on Friday February 9, 1934, the Scotland Yard pilot, Flt. Lt. Ralph Allen was knocked down in a street accident with a motor vehicle whilst crossing Whitehall near New Scotland Yard, London,. The police engineer died of his injuries in the Westminster Hospital the following Sunday. The Metropolitan Police were suddenly without a pilot.

In spite of the setback represented by Allen's death, the Derby Day operation went ahead with Reginald Brie acting as pilot on June 6. The new autogyro had yet to enter full production , it was to be produced as the Avro Type 671, therefore the Epsom operation employed a Cierva preproduction airframe. The Derby task was operated by Cierva C30P, G-ACIN, which mainly featured a different undercarriage set up in comparison with the full production examples.

To enable the autogyro to be fitted out with the Marconi W/T and R/T equipment in time for use on Derby Day, Brie took it to the Marcni office at Croydon on June 5, returning to Hanworth the same day. The next day a little over five hours flying was undertaken in the Derby Day task. The ground unit remained static, although proposals for speech transmissions on the move were to the fore.

Notwithstanding the excellent work undertaken by Kenworthy, in December 1933 Trenchard had expressed an opinion that the Metropolitan Police was tardy in its exploitation of wireless equipment. In an effort to redress the situation Chief Inspector Kenneth B Best was appointed to improve matters. Best was one of "Trenchard's Men", members of the military [or Royal Navy in Best's case] brought into high ranking positions without any prior police connection or training. Although those working directly with these imports were little affected, there was a deep feeling of distrust of the system [and Trenchard] which allowed these men to be brought in over the heads of others with long police service. This narrow viewpoint was taken regardless of any tech-

nical ability that the interlopers undoubtedly possessed.

On July 12, 1934 it fell to the police in Leicestershire to undertake the first full public demonstration of the possibilities offered by the creation of a viable mobile R/T system.

At Desford, a few miles to the west of Leicester, the Marconi Co., set up a well attended trial involving both the Leicester City and County forces, the latter being the realistic potential customer of the two. In line with his ideals, it was an occasion set up by the forward thinking Chief Constable, Lynch-Blosse.

The Leicestershire Aero Club hosted the event and entertained the audience with the assistance of external loudspeakers designed to relay the proceedings of the trial. This provision was set back by an unfortunate accident. With signals already affected by severe interference from a nearby thunderstorm, a saloon car unfortunately reversed into the 20 foot tall collapsible wireless mast serving the loudspeaker system on the airfield. The mast was able to demonstrate excellent folding properties and the signal was temporarily lost! Marconi procured the services of a de Havilland Fox Moth from Surrey Flying Services for the day and Lynch-Blosse supplied a Riley four seat saloon motor car. Marconi equipped both the aircraft and the motor car with wireless equipment, both these suffering far less from the vagaries of weather and passing traffic.

The chosen Fox Moth, a 1932 five seat development of the two seat Tiger Moth bi-plane, was G-ABUT, the winner of the 1932 King's Cup Air Race prior to its sale to the current Croydon based user. Although the pilot remained outside in a then conventional arrangement the passengers were comfortably housed in a fully enclosed cabin forward of his cockpit position and behind the single 120hp Gipsy engine. In spite of its greater load carrying capacity this larger machine, one of the first "airliners", retained a similar performance to its smaller forebear.

The Fox Moth was crewed by Mr. C A Woods, pilot, a photographer, Roy Winn from the Leicester Aero Club and a Marconi engineer. The Riley car, waiting off the airfield in the Welford Road, was crewed by Chief Constable Lynch-Blosse, Mr. Oswald J B Cole, the Chief Constable of the 'City police from 1929-1955, and a driver.

The spurious story woven around the trial was set in motion at 1400hrs. An incident, reported as a "£30,000 bank robbery at Banbury [Oxfordshire]" was reported to Desford. Further information stated that the robbers were reported as escaping in another Riley car which had been conveniently marked with an eighteen inch square of white sheet affixed to the roof. The choice of car is not surprising, at this period all cars of Leicestershire Police cars were of this marquee.

Quite understandable in these, the early days of the craft of vehicle detection, the need for ensuring that the vehicle was clearly marked was an unnecessary precaution After only twenty-five minutes airborne, the Fox Moth, flying at 600 - 800 feet altitude, managed to find the target motor vehicle as it was travelling along the Lutterworth Road. Instructions were passed to the ground unit to effect a successful interception.

In retrospect, a certain amount of disdain might be cast upon this stage managed interception trial. The marking of the target vehicle, its lack of speed and the failure of the "bandits" to either travel at high speed or to exchange getaway vehicles in the manner normal for this type of criminal activity, were clearly matters of fabrication. Taking into consideration the newness of this whole field of endeavour, the trial of radio telephony on the move was very successful.

Unfortunately an element of farce entered the proceedings, just as they were reaching a climax. Immediately after the interception, both cars set off back toward the airfield at Desford. The route was blocked by a particularly large white cow, a beast which resolutely refused to give way to the forces of the law in their mechanical transport. Even the accompanying herdsman was unable to make any progress with the bovine. The Fox Moth, still airborne, came to the rescue with advice on the availability of an open farm gate nearby. The cow thus removed, the Riley's and their occupants proceeded onward to the airfield.

It was this small incident which unfortunately soured aeronautical press reporting of the demonstration in the weekly magazine "Aeroplane". Far from restraining itself and maintaining objective reporting on the technical aspects of the trial, the magazine took the opportunity to make a joke of the cow saga, comments which tainted an otherwise serious news item. This treatment clearly enraged Lynch-Blosse sufficiently to write a protest to the Editor of the magazine, a letter which appeared in the following weeks edition. This was probably the first, and last, time a British Chief Constable wrote in an official capacity to any aeronautical publication. Sections of the letter bear reproduction, if only to illustrate the depth of his belief in police flying:-

"The Aeroplane for July 18 contains an account of some experiments in which I am interested. I am not concerned as a rule with Press accounts of my work, but I take the extreme liberty of questioning the fairness of the comments in a technical paper dealing with flying.
"In the first place, for reasons which are here immaterial, it was necessary to put this demonstration into the small space of time, hence the "white roof". I, and those enthusiastic members of the Leicestershire Aero Club who support me, are perfectly satisfied that with a little more spare time we could have found the car in question in an area of one hundred square miles without identification other than we knew the car.
"The important part of the demonstration, however, was could the aeroplane find the car, direct the patrol car so as to intercept it? This was demonstrated entirely to my satisfaction and I am convinced that once contact was established the fugitive car could have no chance of escape from radio equipped cars.
"May we go one step further and eliminate bandits? There are at the moment other uses both for aeroplanes and motor cars, but you cannot for instance, demonstrate civil disturbance when aerial co-operation would, without a doubt, be useful. The bandit is a convenient form of demonstration. Our object is to draw attention to the fact that a new form of both transport and communication is available and that the police should not wait to investigate the possibilities of either until their hands are forced.
"In short, an experimental flying squad would in a few years be in a position to say either that the air is no use to the police (improbable in the extreme), or that the uses are such and such, and for once the police would be ahead of the criminal.
"One further word, if it can successfully be shown that, given identification, the aeroplane can be of use, surely it is up to some other authority to provide the means of identification, though I do not suggest that the moment is actually ripe.
"My sole object is to be allowed to find out in what way the air can be of service to me in my work. In this search I ask for your support and confidence.
"[Signed] C E Lynch-Blosse, Chief Constable.
Leicester"

Lynche-Blosse was not a fully trained, "streetwise" policeman. His background of an upbringing in "silver spoon" surroundings had projected him, at the age of 20, into the Indian Police in 1910 as an immediate, but worthy, Superintendent. After military service in the Great War he had returned to India in the post of Deputy Commissioner of Police in Bombay. He was still under the age of 30. His return to the United Kingdom at the end of his contract after not that many years had seen him treated in a similar, privileged, mannered. Probably, any conventional police person, more exposed to the idiosyncrasies of the British aeronautical press, would have let the matter of the cow go unchallenged.

The Leicester operation was a worthy extension of work Marconi engineers had been undertaking for many years. The forthcoming extended autogyro trials undertaken in the Metropolis later in 1934 included similar efforts to prove the worth of mobile R/T. In the event wide-spread use of speech transmission by police, primarily in area patrol cars, was to be held back until after the Second World War and the morse key held sway.

Leicestershire were not the only small force to aspire to a greater part in the development of police aviation in the British Isles. From February 1934 in the north west, Lancashire the Liverpool City and Southport police forces joined together to undertake training of ordinary beat police offi-

cers in aeronautics at Speke Airport.

As has been pointed out, since the Great War British police were tasked with many aeronautical duties for which they were untrained. Recognising that it was not easy for a non-flying officer to judge the height of an aeroplane from the ground, Liverpool and Southport teamed up with a local flying club to train as many as possible.

Early in February 1934 members of the 2,260 man strong Liverpool Police received instruction in aeronautics in groups of around 80 and then sent off in smaller groups of around 25 men to take it in turn to go up in a Merseyside based Airspeed AS4 Ferry three engine airliner of Midland & Scottish Air Ferries.

It was intended that, in the small groups, some 500 officers would be flown in the Airspeed and other types of the Liverpool and District Aero Club. The Chairman of the flying club Major R H Thornton, MC, was the catalyst in arranging for this potentially expensive instruction. Whether, in terms of numbers instructed, it proceeded as far as intended remains unclear. The need for some thirty or so flights to meet the initial requirement appears to have represented an excessive financial burden on the police, airline and flying club.

Officers on the other side of England, in Hull, Yorkshire, were not initially so lucky. When the local Police Watch Committee were invited to send officers for flight instruction by the Hull Aero Club the offer was declined. Although it was generally considered that air police were to be the future, the chief constable decided that it was too early for his men to join such an advanced band of policemen. The decision to make that advance was not finally made by a different chief constable until the passage of a further sixty years, in 1996.

The first known involvement of the police with the National Safety First Association, a group with a primary aim of making everyone in the population air minded, took place at Heston Aerodrome early in May 1934. Police from London were joined by men from other forces in viewing a flying display. Among the chief constables involved were those from Brighton, Canterbury and Worcester.

Taking up the challenge presented by this desire to inform, Leicester Aero Club provided some of the aircraft flying in the Air Safety Display held at Braunstone Aerodrome, Leicester, on May 3, 1935. Coinciding with national Silver Jubilee celebrations for the King and Queen, the display commenced with the firing of a Verey light from the control tower, the intention being the instruction of chief constables from the Midlands area, but included police of all ranks, in the intricacies of identification, height judgement and dangerous flying.

Flight Lt. P Stringer, an instructor with the aero club, Messrs. E A Underwood and H P Lavender each gave displays illustrating varying aspects of flight and emergency landings. Instructional "air experience" flights were arranged for police in a number of the aircraft present. Those known to have been present include a de Havilland DH60T Moth, G-ABRF, one of three club machines used, The Honourable Lindsay Everard's DH85 Leopard Moth, G-ACKM "The Leicester Fox III", piloted on the day by Lt. C W Phillips, a Cierva Autogiro, believed to have been G-ACIN, and a Crilly Airlines airliner.

CHAPTER THREE

The idea spreads

The Metropolitan Police decided that it would be useful to undertake a more extensive autogyro trial in the late summer of 1934. The consequent horse trading that led to the operation resulted in the RAF supplying a pilot and hangarage and , in return, receiving use of the machine for their own purposes.

The pilot selected for the task, 29 years old Flt. Lt. Richard Rupert Nash undertook an 80 minute conversion course under the supervision of Reginald Brie on August 12 and 13, just in time for the commencement of the seven week police trial on August 15. As an Air Ministry employee, Nash was scheduled to retain the post of police pilot only for the scheduled duration of the operation. It has not been possible to ascertain whether he flew later sorties for the police. He is was certainly available, remaining posted to the Hendon based 24 Squadron until promoted in April 1937. Rupert Nash went on to undertake flying at the Central Flying School and, as a test pilot, Farnborough before operational flying in the war. He retired in 1954.

The extended autogyro trials cost around £300 for the two months. The autogyro used was the pre-production C-30P G-ACIN, the machine used by Brie and Chamberlain over the 1934 Derby Day flight.

The new trials were publicly launched with demonstrations for senior police officers on August 15. Brie undertook the piloting for the launch ceremony, among others, flying the Assistant Commissioner for Traffic H Alker Tripp. After the public face of the operation was duly presented to the press corps, Nash and his observers were able to take their places for the job in hand. Throughout this particular phase there were seven police observers; Kenneth B Best, Butterfield, Carmichael, Sidney Chamberlain, Hooper, R P Minchin and Wynn Williams. As always, Sidney Chamberlain undertook the lions share of the duties. His recorded duties in September amounted to five hours 30 minutes, Carmichael was the next highest with one hour forty-five minutes.

For once the observers, Chamberlain and Carmichael, were able to take high quality air-to-ground photographs, some impressive photographs being duly passed on to Fleet Street for use over the next few days and weeks as part of a high profile publicity effort.

A variety of traffic and crime experiments were undertaken in the allotted weeks. On the crime front, two flights were set aside to investigate the feasibility of the aircraft following a known car from Hendon to Central London. The first attempt, on Tuesday August 21, was so successful that on the following Friday it was repeated to ensure that it was not a fluke!

A variation was tried the following Tuesday. The Cierva set off to find a specially marked motor car in the London traffic. Special markings - a small white cross on the roof - targeted the car within half a hour. Even when contact was deliberately broken off, the vehicle was quickly found again. As the results of this trial were locked away unseen for decades, the manner of this test was to re-emerge some 22 years later as a new generation of police fliers sought to experiment anew. To use an apt old saying, through a lack of information the wheel was again re-invented.

Less success was enjoyed in two other trials relating to motor vehicles. Experiments showed it was possible to read vehicle number plates from around 150 feet. Identification of the identity of

individual vehicles by manufacturers was somewhat more difficult than expected. The observer on the second flight trial was transport expert Chief Inspector [Captain] R P Minchin, another Trenchard import. He found to his surprise that whilst there were a number of easy subjects, the Rolls-Royce for instance, he was unable to discern the differences between large numbers of some of the more popular makes and models. He specifically mentioned that larger models of the Austin, Wolseley and Sunbeam left him puzzled.

One area in which the autogyro excelled was the inspection of enclosed premises - police jargon for anything with a wall of fence around it - and searching open spaces. Not many of these aspects were tried out in anything but trials. It is worth noting how early it became clear that slow flying aircraft could undertake searches alone and with little effort. It was to be decades before the British police applied science to the findings and quantified what was, in 1934, merely obvious!

From September 4, tests were started with a further modified Marconi wireless set, the first of these being conducted at Croydon and lead to the first use of police air support at a public meeting where an outbreak of disorder was expected to take place.

Continued live trials of the improved wireless were timed to coincide with large rival meetings held within hailing distance of each other by the Communists and the Fascists at Hyde Park on September 9. The situation surrounding the twin meetings was tense, the senior police officers being so certain of trouble that 7,000 of its 20,000 officers were deployed to the location

Messrs. Philco, then a well known name in the field of wireless, loaned a Talbot car equipped with R/T to the police. The car was stationed in Hyde Park. On this occasion it fell to Chief Inspector Best to act as the observer and R/T operator in the autogyro. Best, at one time Lt Cdr K B Best RN, had been appointed to the police as a wireless expert in 1933.

The Cierva C-30P took off from Hendon at 1545hrs a setoff to the south to Hyde Park, where it arrived some fifteen minutes later. Unfortunately the R/T in the aircraft was immediately found to be incapable of receiving messages from the ground. Believing that his own signals were reaching the Philco Talbot satisfactorily, Best remained over the area and transmitted the results of his observations. Only later did he discover that only two messages succeeded in heard by the car crew. An immediate return to Hendon in order to sort out the problem would have been an onerous option. In those days not only did the aerial have to be hauled in (lengths varied between 55 and 65 feet at that time), but the machine would have been missing from the area for at least 30 minutes. The flying crew thought that they were doing quite well in transmitting and the object of their attentions, the Communist and Fascist crowds, were equally unaware that the communications were not working. As far as they were concerned, any violence or untoward actions would result in an instant report being transmitted from the "spy in the sky" to the police on the ground.

At 1735hrs the autogyro returned to Hendon for refuelling. During the period on the ground the R/T fault was confirmed, identified and rectified by Best. At 1830hrs the machine set off back to Hyde Park. This time the quality of the transmissions were superb. Those on the ground clearly believed in the power of air observation and the day concluded with few incidents. Over the course of the day only eighteen people had been arrested.

The equipment remained temperamental and the quality of the results obtained with R/T continued to be erratic. Further trials with the Philco car near Hyde Park some days later were called off after the wireless set in the car suffered a total failure. The wireless sets remained tricky to maintain and operate, a special school being set up. The subject was so complex that the more advanced police trainees, usually 50 to each course, would spend 6 to 8 months in training. In November 1935 Best re-located the two year old Wireless Training School from Inner London to Trenchard's Police College at Hendon.

The Cierva the police were using became a regular sight over London, but not everyone was wholly impressed by its presence. A certain amount of antagonism could be expected from crimi-

nal elements - these were largely without a public voice - but the press and some members of Parliament were also against the flights.

The flight of a single engine and novel type of machine flying over a built up area was indeed not without its dangers, particularly in the event of an engine failure. Engine failure in the 1930s was endemic, and even the novel rotor could offer few guarantees of a safe alighting within the crowded urban landscape. Held to be a singularly safe mode of transport by its backers, a claim proven in retrospect but difficult to make at the time. Aware of the attendant problems, there were a number of calls for a "multi-engine" autogyro's from senior officers at Scotland Yard. As far as I am aware, such a craft was never projected, let alone built.

The services of Cierva's C-30 were extended to include use as an aerial mail carrier by the General Post Office [GPO]. The GPO were interested in exploring the problems associated with using the type to fly important mails from the roof of the then new Mount Pleasant postal sorting office in Farringdon Road, Finsbury to the main London Airport then situated at Croydon.

The trial was not popular, attracting a large body of influential detractors. In keeping with their lack of support for the airship flight a dozen years earlier, the editorial staff of "Aeroplane" were in the forefront of the protesters. The preliminary "touch and go" trials undertaken by Brie into the site seemed ridiculous to many. The magazine tarred both the police and postal operations with the same phrases " publicity craving ..... official folly .....". In the face of widespread criticism, the postal scheme folded, leaving the police scheme to continue in a slightly enhanced form in comparison with earlier years.

Uses additional to the annual races at Epsom included other major public events including the Football Association Cup Final. The individual machines used for particular events are difficult to isolate, other than from photographic evidence. The latter suggests that another of the pre-production Cierva C-30Ps, G-ACIO, was used over the 1935 Cup Final tie between West Bromwich Albion and Sheffield Wednesday at Wembley.

Following the late 1934 trials the hierarchy at Scotland Yard seriously considered the purchase of their own police autogyro. The preferred "twin engine Safety model" was not available, but other than that the Cierva C-30A fully met the police requirement at a price of £1,100. It was the cost that delayed the purchase, many technical and operational details relating to its operation being investigated. It was considered that police officers should be trained as pilots, but appreciated that it would be a difficult task to arrange from within the police. In a compromise, it was decided that it would be sufficient if the observers were fully conversant with the topography of Metropolitan London. Keeping the machine at Hendon placed it conveniently close to the Metropolitan Police College (the Trenchard "improvement" for the introduction of an officer class to policing), and handy for the RAF also. The latter was the key to the viability of the whole scheme. Placing the machine with the RAF would increase the chances of a reciprocal loan arrangement resulting in the free supply of a trained pilot for police activities.

In the period three different methods of pilotage were explored. By chance the three included variations from England, Scotland and Wales. In England, for the London flying it was intended that the pilot employed would be an officer, like Nash, attached to the "Hendon Station Flight", possibly intending to allocate the task to an officer from 24 Squadron, the principal communications flight, which was at Hendon throughout this period. It was considered that the projected heavy police use might eventually require an additional pilot be attached to RAF Hendon.

In Scotland a slightly different answer to the thorny question of pilotage was attempted. A lack of information clouds the exact details of the manner in which Sir Percy Sillitoe, the Chief Constable of Glasgow from 1931 to 1943, employed a civilian pilot to fly a projected aircraft for his force. All that is known is that, like the London police, the intention to purchase an aircraft was never realised. Similarly, there is a dearth of detail surrounding the reported intention to use a Cierva C-30 at the England v Scotland International football match at Hampden Park, Glasgow. Scheduled for April 6, 1935, I have been unable to trace any confirming post match news reports of the pres-

ence of the police machine. In February of the same year Sillitoe successfully approached members of the Glasgow Corporation General Finance Committee to gain authorisation for his men to make use of aircraft when distance and urgency required.

The third pilotage option was briefly investigated in Wales. Two decades after a similar first in the USA, Police Constable Joseph Lock of the Glamorgan Constabulary is reputed to be the first UK police officer to serve as a pilot on law enforcement duties. The venue for this officer's brief appearance in the limelight was over a July 1934 protest march against "Means Test" measures brought in for [or perhaps more against] the unemployed. Nothing is known of the aircraft used.

The British police were not the only law enforcement group interested in the capabilities of the autogyro. In 1934 the French Liore-et-Olivier company took out a licence to build Cierva C30A Autogiro machines for the home market. Part of this agreement was that four such machines would be bought in from the British production lines of the Avro Aircraft Co. In 1934 two were exported from Britain to France. On November 23, 1934, whilst the XIVth Salon de l'Aeronautique was being held in Paris, the French pilot Roger Lepreux undertook a spectacular landing of the second French Cierva to be delivered on the Champs Elysees, in front of the Grand Palais. This second French Cierva, constructors number [c/n] 776 F-AOHZ, was then still bearing its British registration of G-ACYC.

With the type in limited use by the police in England and Scotland there was, understandably, a certain amount of press speculation to the effect that the French police might take up with the autogyro in the role of traffic spotter. The type entered service with the French military from 1935 but no trace has been found confirming police or GN use in the period.

The Gendarmerie Air Wing had its roots in the formation of the independent French Air Force [Armee de l'Air] in 1934. Being part of the army, which itself spawned the air force, the Gendarmerie was tasked with airfield security, a police role not dissimilar to that undertaken by the military police and the RAF Regiment in the United Kingdom.

During January and August 1935 there were reports of "Pilotes Policiers", air police, under the Surete Nationale, being greatly enlarged in France. Far from being an announcement of an intention to set up a Gallic corps of police aviators, this was merely notice of an increase in the number of administrators of aeronautical laws.

Prior to this expansion, much of the Pilotes Policiers task had been concerned with prosecuting aviators flying over forbidden areas - in particular the new fortifications of the much vaunted Maginot Line of defences along the border with Germany. The January announcement stated that first in the queue should be trained pilots, although there was still no intention to acquire aircraft. After the summer of 1935 there were calls for the creation of a twelve aircraft police fleet for the Paris area. Nothing happened.

It is worth noting that the modern successors of the pre-war Surete, the Police Nationale, still operate no aircraft of their own in France. All law enforcement flying is undertaken by the military based Gendarmerie or the government agency, Security Civile.

As the Germans "came out" with a new Luftwaffe partly based upon former police air units, the situation relating to the police flyers in Austria remained clouded in mystery. As outlined in chapter 1, after the turmoil of the Great War, Austria and its aircraft industry were sidelined, treated as an insignificant left over from the defeated Austro-Hungarian Empire, by potential foreign buyers. Further progress in furthering aeronautics in the country remained severely hampered by a perception that products were those of a backwater industry. There were very few export successes. The home market was only able to support a few new aircraft annually, so few it seems that most appeared to be those subsequently identified as making their way into the police air section.

Included in the then modern section of the police air fleet in the late 1930s was the 1925 vintage Udet U-12A Flamingo, an aerobatic light bi-plane from a short lived company formed by Ernst

Udet the famous Great War pilot. By 1929 the company had been taken over by Phoenix. Beyond this were two examples of designs from the Flugzeugbau Hopfner company in Vienna. The first, the HS8 of 1929, was a conventional light monoplane with a parasol wing layout. The other, the HV-15, represented the most interesting aircraft type known to have served in the Bundes Polizei fleet. This Hopfner, OE-POH, was a sleek twin-engine cabin monoplane, which resembled the early models of the Avro Anson, a type of which is was a contemporary. Unfortunately, Theo. Hopfner's company, the first to produce an aircraft in Austria after the war, failed in the mid -1930's after he had designed this, his 15th aircraft. The later designs were taken over by Hirtenberg Patronen in Lower Austria and Hopfner took up the post of Director of the aircraft department with them.

In the face of a range of similar types produced by the great powers, and an impending war, the Austrian aircraft industry remained unable to make a significant headway. An independent Austria was to merge with the Nazi war machine from 1938 and suffered the dire consequences of that move. The fate of the police operation became shrouded by the clouds of war and substantive police operations only re-emerged after the war in 1955.

The influence of Trenchard in Metropolitan Police aerial aspirations remained considerable. He took a natural interest in negotiations, arranging for numerous SECRET letters to be sent to the Air Ministry from 1934 through to mid-1935. At least one meeting was arranged with Sir Hugh Dowding (in his position as head of Air Defence of Great Britain) regarding use of the, yet to be acquired, police autogyro’s in war conditions - at night, perhaps on internal security or black-out patrols. Although the scenario never came to pass, it was agreed that should the Metropolitan Police buy its autogyro it could be used for police operations undertaken within ten miles of Charing Cross - an area somewhat smaller than the whole of the Metropolitan police District [MPD].

Part of this liaison with the military included arrangements for the autogyro to operate in conjunction with the Annual Air Exercises of the Air Defence of Great Britain in July 1935, but at the last moment the police pulled out. The reason given was that Dowding considered that operations over London in an autogyro at night could be fraught with danger. The cancelling letter suggested that police might try in the following years exercises. In spite of the stated intention, the police did not again apply. Trenchard handed over the post of Commissioner to Air Vice-Marshal Sir Philip Game GCB, GCVO in November 1935, a change which appears to have led t the final move away from the intended acquisition of a police autogyro.

One of the smallest UK police forces, with only around three dozen men on its strength, Reigate Borough, situated in Surrey, south of London, became the first to set up its own air unit from August 3, 1935. To enable this to be possible on the most slender of budgets, the Chief Constable, William Henry Beacher, had to employ novel means. He had been hailed as an innovator since he first took over his post in 1930, an attribute which many put down to sheer showmanship rather than serious development.

The number of new working practices introduced by Beacher, including an early form of neighbourhood watch, eventually succeeded in creating an air of boredom in the ranks of the press, resulting in a number of noteworthy ideas receiving scant coverage. A mobile patrol was set up under the Reigate Borough Special Constabulary in 1932. Under the leadership of Sir Malcolm Campbell, the world famous racing driver, this group used a number of motor vehicles including motor cycles and expensive high powered motor cars in the Bentley mould to transport members around the small police area. Not without reason, there were those who pointed out that the set up was elitist. It was certainly staffed by a large proportion of the middle class and far out-numbered the regular officer strength.

When, in 1936, Beacher arranged for the extension of the principle behind the mobile patrol into the formation of an Air Section a large part of the national newspaper Fleet Street press corps was ignoring any news from Reigate. Only the local and aeronautical press corps carried the story-line.

Beacher's Air Section operation was based upon an existing flying club based nearby. The Redhill Flying School consisted of a commercial flying training and aircraft hire arm and over sixty individual members based in the nearby Ham House Country Club. The flying school occupied part of a 300 acre estate near the town of Redhill from November 1934. British Air Transport, the operators of the school, had been driven out of the aerodrome at Croydon in 1930. Croydon was declared the London Terminal airport and unable to support the activities of the defunct Henderson School of Flying. In 1935 the renamed and re-located flying school possessed four DH60 Gipsy Moth's, a DH83 Fox Moth and one Cierva C30A Autogiro. A DH Puss Moth and a Miles Hawk were also on call for normal training with the commercial organisation, these being made available by private members.

Not unexpectedly, in view of their readiness to hire out their aircraft and their similar standing to those already in the Reigate Special Constabulary mobile section, a number of the members were aircraft owning pilots amenable to the chief constable's approaches. At least twelve of their combined number enrolled in the Reigate Special Constabulary and made available to the police a similar number of aircraft, these ostensibly being made available to the regular officers in support of their day to day duties. No evidence survives upon the thorny matter of reimbursement of flying costs, it would be uncharacteristic if all the costs associated with the police arrangement were chargeable to the local rate-payers.

The Reigate scheme was officially launched at Redhill aerodrome on August 3, 1935. The pilots who had consented to become involved in the scheme brought together nine machines for the ceremony. In addition to four DH Gipsy Moth's, a Fox Moth and a Cierva Autogiro from the flying school, a member supplied an Avro bi-plane. The composition of aircraft types available to the police scheme varied over the coming months and years of its operation. he most unusual type to be noted in use was the Blackburn Segrave, G-ABFR, a type which, powered by a pair of Meteor engines, was in use a year later.

Malcolm Campbell missed the official launch ceremony as he continued the pursue the raising of the world land speed records with conspicuous success. Chief Constable Beacher was very evident, accompanied by a dozen of his regular officers. Of the volunteer flyers, a number received instant high rank within the new formation. R F Bulstrode, the Chief Instructor and prime autogyro pilot for the flying club, was made the unit inspector. Two other pilots, Maurice Houdret and E H Freshfield MA, became sergeants. As each of the posts was unpaid it mattered little.

The members of the Air Section met again for the Annual Dinner and Dance held in conjunction with the mobile section each year. This event was followed up by a combined rally at Redhill on Saturday June 13, 1936. It was all very jolly, but even the local press interest had waned somewhat by then.

Much has been made of the worth of the Reigate Police flying operation - and Beacher's part in it. This Redhill Flying Club operation was presented as an operation that Chief Constable Beacher and Sir Malcolm Campbell developed themselves. There is a suggestion that there might be more than a passing connection between Campbell's frequent visits to the USA during 1931-35 in pursuit of the world land speed record and the almost identical, and then current, scheme of aerial policing set up in 1929 by the Los Angeles County Sheriff. It is also quite likely that other US police forces had readily copied this and the 1918 New York scheme to some degree and that it was widespread.

From the available evidence it is clear that the scheme had little, if any, effect upon day to day policing. Surviving members of the small regular force cannot remember any instance when they were able to call upon the facility. Clearly it appears that, in spite of the longevity of the stories surrounding it, the arrangement served only to promote public awareness of the Reigate Borough police, Chief Constable Beacher and some members of the flying club. In that it was undoubtedly wholly successful.

In police terms, it was not a busy area. Even today, more than half a century later, Reigate has little need for calling in readily available police air support. The likelihood of them requiring a similar facility with a relatively long lead time in availability is equally low. It is most unlikely they ever undertook a single operation on their own behalf until it was closed down by the start of the Second World War. Suggestions that former pilots of the unit fought and died in the Battle of Britain are insupportable. We simply do not know enough identities of those concerned to trace their subsequent careers.

Eventually the police force in Reigate Borough succumbed to the progress of history and was amalgamated with larger forces. Today the area once taken by Beacher's men is split between Surrey and the Metropolitan Police.

The first recorded instance of a UK police air unit undertaking the prosecution of other flyers was over the Derby meeting on Wednesday May 27, 1936. Four defendants were summonsed by the Metropolitan Police to face low-flying offences at Epsom Magistrates Court on September 3. The accused were Aerial Sites Ltd., Air Publicity Ltd., and their respective pilots, Frederick Freeman and William Woodward. Each of the two companies had employed an aircraft towing banners over Epsom Racecourse without Air Ministry authorisation.

The police air crew involved were Max J Bingham-Stoker, pilot, and Sidney Chamberlain, observer. The police crew were cross examined by the defence. Bingham-Stoker agreed that the height at which the police machine was flying was safe, and that the two aircraft which were the subject of the summons were at a similar height. The lack of Air Ministry authorisation for either of the banner towing flights was successfully pushed into the background by the defence calling in a pair of aeronautical "big guns" as character and technical witnesses. Tom Campbell, well known as a McRobertson Race pilot, had been present on the ground at Epsom and Captain Henry Schofield, a one time Schneider Trophy pilot, was allowed to express an opinion although not actually present. Both assisted in mounting an effective destruction of the police case and led to the case being dismissed.

The 1936 Derby flight was also interesting in that it provided the only known instance of actual police involvement by aircraft assigned to the Reigate Borough operation. Although absolutely nothing to do with the Borough police operation, the autogyro used by the Metropolitan Police was the Cierva C30A Autogiro, G-ACWZ, operated by the Redhill Flying Club and allotted to their Special Constabulary operations. It might even be that the pilot on that occasion, Max Bingham-Stoker, was one of the members of the special constabulary.

When the "direct take-off" Cierva C30 mark III, G-ACWF, was demonstrated on Hounslow Heath on July 23, 1936, most of the hierarchy in the Metropolitan Police neglected to attend. This model of the Cierva represented the next stage of the quest for the helicopter. A new clutching arrangement for the rotor allowed the autogyro to leap into the air without the need for a long ground run. In spite of the importance of this development in aeronautical history and the recently advanced ideas about purchase, it was left to Assistant Commissioner Major J F Ferguson (later Sir John Ferguson, Chief Constable of Kent and one of Trenchard's specially imported Air Ministry aides at Scotland Yard) to report back on the days events. It was Ferguson who had undertaken the drafting of the majority of Trenchard's SECRET correspondence with the Air Ministry on the air defence issues. After the departure of the great man, interest was clearly waning.

The development of this ability to "jump" into the air did not place the Cierva design into the helicopter class. Having thus leaped skyward by some 20 feet the pre-spun rotor still required the main power-plant to convert it to forward motion and then to propel it through the air to maintain air speed.

Assisted by the Cierva designs, others were about to overcome the additional problems associated with converting the simple freely flapping rotor into a powered form capable of automatically compensating for the different angles of attack required for altered positions in rotor arc - cyclic pitch.

As Metropolitan Police interest fell away, other senior officers in the county police retained a level of interest they were unable to sustain financially. The Chief Constable of Leicestershire (Lynch-Blosse) continued to keep himself abreast of all developments in police flying. In September 1936, when the Metropolitan Police started to plan a renewed trial following a car into and around Central London, he was soon in touch with the London team. The result of this contact was that when Lynch-Blosse next visited the capital he became the "target" for the autogyro search crew.

On October 3, the Cierva then used by the Metropolitan Police was sent aloft to look for Lynch-Blosse' car. There were no special markings applied to the car, the only assistance was the supply of a rough route and a description of the vehicle - "a black Rover with a sun roof". This description did little to assist the searchers, Lynch-Blosse was well known for always driving a dark blue, 14 h.p. Riley. Fortunately the two cars were similar.

At 1145hrs, not long after the car left St. Albans for the south, in the vicinity of the Hatfield by-pass, from a height of 100-150 feet the police air unit found the car and directed in an intercepting ground unit. It had been easy, even though the traffic and the target had created some problems during the search and intercept. Lynch-Blosse had instructed his driver to do his best to make a "chase" of the event. After realising that his vehicle had been spotted by the Cierva crew, the chief constables attempts to duck into side streets and put on speed were all to no avail.

The exercise with Lynch-Blosse was merely a preamble to the real business of the month. The following day, October 4 1936, the Cierva Autogiro was on duty over the East End of London as part of a massive police presence guarding the right to march of about 3,000 of Oswald Mosley's Blackshirt Fascists. Set against the Fascists was a mixed gathering of left wing activists and minority communities, primarily Jews. Some 7,000 police, including virtually the whole of the Metropolitan Police Mounted Branch, were embroiled in street fighting in and around Cable Street, Bethnal Green.

As in Germany, the British Fascists had long made the Jews and other immigrant nationalities the political scapegoats for the ills befalling the population in the years of depression between the wars. Blackshirt groups held regular, and often violent, meetings in cities, towns and villages of Britain in the years leading up to the outbreak of war in 1939. Vociferously opposed by the Communists and younger Jews, the occasional clashes between the two sides in London's East End and elsewhere were more in the class of "spectator sport" than occasions where large groups of either party met in battle. The October march by the Fascists was routed through a Jewish quarter of Bethnal Green, a move calculated to draw a violent reaction.

In many ways the events of October 4 were merely a continuation of the skirmishes at Hyde Park in 1934. Already in 1936 there had been clashes in Central London and the East End, open fighting had taken place between Fascist and Jew - the latter ably supported by Communists. The primary problem foreseen for October 4 was that member's of the Ex-serviceman's Anti-Fascist Association wished to march and demonstrate against the activities of General Franco in Spain and Moseley in Britain. The area in which this was to take place was predictably the same as that chosen for the march by the Moseley supporters. Trying to be even handed and sensible, the police pointed out that as far as they were aware Moseley had applied to march in the area first, and that they had already agreed to it before the second group made their own opposing application. This was not a situation where such tolerant rhetoric held sway. Faced by intransigence, the police were obliged to ban the rival march. The authorities fully realised that this action was highly unlikely to solve the problem and brought in large numbers of officers - and the autogyro - to control the expected trouble.

When the Anti-Fascist elements started publicising arrangements for their march and meeting to take place at an alternative site - Trafalgar Square in Westminster - it appeared that the threatened clashes might be averted. At the last moment the original venue was cancelled and potential demonstrators were re-directed to meet at Aldgate in the East End at 1400hrs.

Although some observers claim that many of them were spectators to the days events, estimates claimed that 100,000 people were drawn out of their homes to line the streets of Bethnal Green. Many of the side streets were barricaded against the passage of the marchers, parties of the police undertaking the task of removing these makeshift barriers before the arrival of the Blackshirt gangs. The Fascist march was finally abandoned after a series of flare ups and running battles - including that in Cable Street - this outcome resulting in most left wing politicians claiming that the views of the left had prevailed over the evil of the right.

The "Cable Street Riot", which actually occupied a fair number of the streets of Bethnal Green beyond that it was credited to, was probably an event somewhat less important than history, fuelled by political needs, has cared to remember it. In comparison with some of the post-war disturbances in London (again almost all political in nature) the disturbances of October 1936 can be adjudged small fry. The dire expectations of the police hierarchy at the time, and the tension evident in the crowds, resulted in the highly unusual provision of air observation and a place in East London folk lore. No records of the precise part that the police air unit took in this momentous event have survived.

In 1936, International Airships Ltd., offered the London police free use of an Enterprise type non-rigid airship for use over the forthcoming Coronation of a new King. Following the death of George V in January 1936, the Prince of Wales was to be proclaimed Edward VIII but gave up his crown in December the same year. George VI was eventually crowned in May 1937.

The craft on offer was owned by the Good Year Zeppelin Corporation, an offshoot of the motor tyre manufacturer. Good Year had manufactured its first safe helium filled airship in 1925 and was to go on to build an unequalled total of around three hundred in a period spanning over sixty years. At Scotland Yard the recipient of the letter making the offer was Captain R P Minchin. Taking up the generous offer Minchin telephoned the company and explored the feasibility of the offer. He quickly came to the conclusion that operationally the offer was ideal, but substantial drawbacks quickly presented themselves. The main problem was that the craft proposed was not yet in the United Kingdom - in fact it failed to make it until after even the delayed Coronation. Having missed its initial publicity venue the airship was then offered for use at the somewhat less prestigious event of the Derby Day at Epsom, less than a month later. The sting in the tail of this further offer was that it was offered free, but only on the understanding that the police would agree to enter into a contract for other future events.

The services rendered by the tried and tested Cierva machines over the previous five years brought about a refusal of the airship offer. It may be that the manoeuvrability problems experienced during the 1921 trials were still fresh in some minds, but it is more likely that rejection was based wholly as a reaction to the attempt to introduce constraints.

The Cierva C30A Autogiro was not perfect, it did however hold out the promise of a known compromise between the ideal and available technology. The speed range of 25 - 95mph allowed the crews to undertake the majority of tasks with relative ease. The top speed of the C30A, a value rarely of use in the police role, was often quoted at a higher figure. Chamberlain, in notes left, likened the airframe vibration at any speed over 95mph to producing levels "so intense that the whole thing must have resembled a blancmange".

Aware that the Metropolitan Police were now confirmed protagonists of the autogyro principle, other rotary wing manufacturers regularly presented technical information on similar machines to Scotland Yard. Kay Gyroplanes Limited tried to raise a glimmer of interest twice, once in 1936 [in conjunction with the Cierva trial at Hounslow Heath] and then again in 1939. Both approaches failed primarily due to the Kay's small size and single seat specification. Intended multi-seat developments were halted by the war.

For the United Kingdom in 1937 a further proposal that a Metropolitan Police Flying and Motor Club should be formed remained a proposal far ahead of its time. Such organisations might be a quite acceptable adjunct to life in the USA and elsewhere, in the ranks of the British police how-

ever the mere ownership of a motor car - let alone involvement in flying - in the late 1930s was seen as an wholly unacceptable activity. For different reasons, a further suggestion that all of the police in London might follow the lead of such as Liverpool and Leicester in being instructed in the art of flying and navigation was discounted. This particular idea sprang from the attendance of some officers at a "Safety First" demonstration at Heston Aerodrome in 1934. The senior officers in London had considered the subject for three years before deciding to drop the matter on the grounds of cost.

Despite the general decision to deny the force at large the chance of instruction, a small section of the police in London did join their county cousins in limited instruction.

As previously recounted, Liverpool, Southport and Leicester had been undertaking such training for some years when the larger Metropolitan Police finally decided upon its decidedly limited efforts in this field.

The police in the South Coast county of Sussex also sought to instruct their officers from 1937. In those days Sussex was a county split into East and West and had forces to match. Additionally the county had a number of small town and borough forces. Each of these was invited to a free air display to mark the opening of the newly completed aerodrome at Shoreham-by-the-Sea. On June 5, 1937 about one hundred police officers of all ranks were entertained to a flying display undertaken by a de Havilland DH60 Moth and a DH89 Rapide. The Moth was flown in a series of "crazy" manoeuvres designed to instruct those with little awareness of flight, by Mr. C L Pashley, the Chief Instructor at Shoreham. He also enacted a purposeful arrest and document inspection scenario for the audience. The Rapide was operated in a far more sedate manner by Captain C W F Wood a pilot with Olley Air Services.

In addition to the chief constables of the two county constabularies, officers of similar standing attended from the forces of Brighton & Hove and Hastings. The Hove Fire Brigade also sent representatives. By special request of Scotland Yard, invitations were also sent to a number of influential officers in the Metropolis. Superintendent Mayell and Sidney Chamberlain represented the Traffic Department, Superintendent Smith the Peel House Training School in Victoria and Inspector Seymour Trenchard's newer Hendon Police College.

With only two aircraft in the main display, clearly entertainment was not the primary intention of the air show organisers, the Brighton, Hove and Worthing Municipal Airport Committee. The event was not one that could realistically be placed alongside even the most modest of the public air shows of modern times for comparison. The limited antics of the aircraft were the draw, side shows operated by a variety of subsidiary groups provided substance to the hard headed business of the day. The visiting police and fire officers were instructed in a number of skills, including crash rescue and aircraft fire fighting - matters which might well involve members of the outside bodies in their duties. A number of the visitors were treated to lengthy flights along the Sussex coastline in the Rapide.

All in all the Shoreham flying day was similar to many such instructional occasions held for police officers. It was a day operated with a minimum of attractions with a hard headed business intention to ensure that the emergency services in the area surrounding the aerodrome could realistically cope with disasters. If there was a hidden purpose, it could also be suggested that it sought to reduce the level of on site emergency service burdens on the operators.

The autogyro’s continued in use with the Metropolitan Police until at least 1937. Very little written material has survived on their operations, almost all related police archives have been thinned to extinction, leaving only the material hoarded by Sidney Chamberlain. The last public airing of these police operations occurred the following year when Brie and Chamberlain appeared together in a "photo-call" at Hanworth for the now defunct monthly magazine "Pearson's". Unfortunately whilst advertising for this treatise exists, no copies of the article have survived the passage of time to enable us to gain a glimpse of the workload undertaken by the unit in its final months. No one has ever traced the final date of police autogyro flying.

The Metropolitan Police were not alone in flying activities as the war approached. In addition to the limited activities of the Reigate Borough police, Lancashire were making use of a de Havilland DH85 Leopard Moth G-ACRC in air spotting. Owned by Merseyside Aero & Sports Ltd., [another title for the Liverpool Aero Club] the Moth was contracted to cover a Royal visit to Lancashire in May 1938.

The weather for the Royal Tour by the recently crowned King George VI and Queen Elizabeth was typically British as the couple set off to tour the county over four days. The weather was so poor that it was not until the final day that flying conditions were suitable for operation of the Leopard Moth.

On the afternoon of May 20, the three seat aircraft, crewed by Inspector Tommy Platt, Mr H Willett the head of the Lancashire Constabulary Radio Department and an unidentified pilot, operated out of the airfield at Barton near Eccles. The trio transmitted verbal reports on the progress of the King and Queen in their motorcade as they short visits to Bolton, Rochdale and Oldham. The reception quality of the transmissions from the light aircraft was poor, but adequate.

As police aviation in the United Kingdom continued in a half hearted manner of trials held back by a lack of adequate funding, on the other side of the Atlantic Ocean the Canadians entered the field of aviation with gusto. If the intentions of the chief of the Royal Canadian Mounted Police [RCMP] from 1931, Major General Sir James Howden MacBrien, had been met in full, this famous police force might well have undertaken full flying operations early in the 1930s. In August 1928 a number of detectives in a single armed aircraft had been used o search for five armed bank robbers in a car without success. In 1929 another aircraft had been borrowed to assist ground patrols in a gruelling 29 day manhunt in the Arctic for the killer of a Mountie. Under its influential leader - as a former Chief of Staff with the Canadian armed forces, MacBrien was another figure in the stature of Lord Trenchard - a de Havilland DH60 Gipsy Moth CF-AAA owned by the Aviation League of Canada became available to assist in limited anti-smuggling patrols. The police chief was included among the pilots.

The space in the two seat Moth was at a premium and stringent financial considerations were holding back any aircraft purchases. It was additionally arranged that the RCMP would have limited access to the few examples of the Fairchild 71 operated by the Royal Canadian Air Force [RCAF]. The Fairchild was a single engine high wing utility type. Flights by police were reasonably successful in thwarting rum-running and drug smuggling but, with a fleet of only 135 aircraft all told, the RCAF were none too pleased at giving up flying time to the police. Reluctant or not, for four weeks in 1936 Flight Lt. R C Gordon was seconded to fly Commissioner MacBrien on an 11,000 mile inspection trip around outlying RCMP stations.

Before long the RCMP were undertaking the detailed planning of a new police Air Division. The decision to equip the new RCMP air unit with the twin engine de Havilland DH90 Dragonfly airliner was made in 1936. With coastal patrol being a primary duty, the choice was partly made on the basis of the twin engine specification.

In October 1936 a Canadian registered demonstrator aircraft from the British manufacturers was loaned to the RCMP for training.

On April 1, 1937 a police detachment moved into North Toronto and took over part of the Post Office Building on Montgomery Avenue in preparation for the delivery of four new aircraft for the unit. Eight pilots, each with a variety of former flying experience, were allotted to the new unit. The pilots were given refresher training in the aircraft of the Toronto Flying Club while the new equipment was delivered.

Staff Sergeant T R Michelson, one of he police pilots, was taxiing the demonstrator Dragonfly CF -BBD across the airfield on April 19 when the machine collided with, and wrote off, a parked Toronto Flying Club Puss Moth CF-CDM. The Puss Moth had been sitting with its engine running

but Michelson saw it too late to miss it. In spite of all the damage caused by three engines and whirling propellers, the two in the Moth survived uninjured - although the policeman's leg was broken.

After receiving a temporary patch, the Dragonfly survived to return to the local de Havilland factory for a rebuild.

The first of the RCMP aircraft, each predominantly dark blue with yellow wings, was delivered on May 5, 1937 registered as CF-MPA. The second, CF-MPB, was delivered at the end of the same month. The third machine to arrive bore the out of sequence registration CF-MPD when it arrived in service from June 26. The final delivery, on July 15, of the initial equipment was Dragonfly CF-MPC. This aircraft was the damaged demonstrator CF-BBD returned to service after its repairs had been completed. Each of the Dragonfly received the addition of a name which reflected the last letter of its registration -*Anemone, Buttercup, Crocus* and *Dandelion.* The effect of this fleet upon the rum and drug running was quite dramatic and most of the elicit traffic found alternative routes of entry to Canada and the USA. The Dragonfly fleet did not remain long with the RCMP. Three of fleet were called up for service with the RCAF on the outbreak of war, the fourth being sold off.

In 1938 another type was added to the Mountie fleet. A float equipped version of the single engine Noordyn Norseman bush aircraft, another high wing utility type in the mould of the RCAF Fairchild's it was a type optimised for the patrol of the vast interior regions rather than the coast. The Norseman was originally registered CF-MPE, but it too suffered an accident in 1939 and when it returned after repair in 1940 it was re-registered CF-MPF. Those early aircraft were unusual in the short length of time they stayed in service. As a guide to the general longevity expected of the RCMP's aircraft fleet it is worth noting that a Grumman Goose amphibian CF-MPG, acquired by the unit post war in 1946, was to remain in service for over 47 years, only finally being withdrawn in the 1990s.

In the period after the war the RCMP introduced a number of bush aircraft similar in appearance to the Norseman and Fairchild. These long lasting types, originating from the factories of de Havilland Canada, became the mainstay of the early post war operations.

As the fortunes of one unit in the New World waxed, so another waned. The aviation bureau of the New York Police Department [NYPD], now almost nine years old in its regular police form, was closed down early in 1938.

In the years of its existence, with limited resources, the police aviation bureau had undertaken all that had been asked of it - and more. Soon after it had been constituted aircraft had started flying out of the New York area to pick up wanted prisoners and return them to the city - a clear saving in potential airline costs - and then of course they had quickly driven the stunting fliers from the sky and undertaken numerous rescue missions in and around the city. In April 1933 the pilots of the unit had distinguished themselves beyond the borders of their own area in the rescue of five men from the sea off the New Jersey Coast. The five were from the US Navy blimp J-3 which had crashed in the water as it was itself employed in searching for survivors of the US Goodyear-Zeppelin ZRS4 dirigible *Akron.* Only three of the seventy-six crew of the dirigible survived. Like the larger air ship, the J-3 had been driven into the rough sea during a storm.

Created in a blaze of publicity, the aviation bureau had quickly suffered from chronic under funding of resources and the original fleet had eventually expired without replacement. Unlike modern aeroplanes which can serve for decades, the structures of the flying machines of the late 1920s, being mainly wood and canvas, were not blessed with longevity. There were exceptions of course. Two of the Savoi-Marchetti machines had been withdrawn in 1934, leaving the third example, the Loening and a Fleet to continue for another few years. None of this had been assisted by the stock market crash and the Depression. Finally, in the Spring of 1938 the last two machines were condemned by Federal Inspectors and the unit closed down.

Faced with this unexpected development, the NYPD budget was unable to finance the acquisition of replacement aircraft so the primary tasks of the unit passed into a state of limbo and the majority of the flight crews and engineers returned to standard police duties. The worth of the unit was appreciated by both politician and police alike. It may not have retained a continued ability to fly, but a skeleton force of men was maintained to supervise the towing of banners over the city and to investigate aerial accidents within the metropolitan area.

There appears to never have been any intention of doing away with the air unit, it was almost wholly a case of poor financial provision being made for aircraft re-equipment in what were decidedly hard times and red faces all round. As soon as the finance was available, Mayor Fiorello La Guardia and Police Commissioner Lewis J Valentine rehabilitated the aviation bureau in its original form as a flying unit with six pilots. The fact that the unit was reconstituted so quickly in the face of potential political embarrassment speaks volumes of its former effectiveness. Some sources suggest that this was greatly assisted by billionaire aviation enthusiast Howard Hughes donating two new aircraft engines to the city in 1939.

A pair of Stinson Reliant SR-10K high wing monoplanes, one equipped as a land plane and the second with a pair of floats, were ordered for the NYPD aviation bureau for service from July 1939. According to contemporary reports the land plane, NC-21148, cost the city $14,641 and the seaplane, NC-21147, $19,000. Destined to be built in large numbers as a sturdy communications aircraft in the approaching war, the Reliant was offered to potential customers with a variety of engines, the NYPD chose to have their examples powered by 450hp Wright Whirlwind radial engines which gave a cruise speed of around 150mph. If these were donated by Howard Hughes, it was clearly as part of the overall purchase package. The original city colour scheme of green and white with *"New York City Police Department"* placed conspicuously on the sides and *"NYCPD"* below the starboard wing, was retained.

For those with romantic inclinations, the choice of type may be thought to have been influenced by the closeness of the designer, Eddie Stinson, to the original 1919 NYPD unit in the days when he was merely a well known pilot who gave up his time and help freely. This is quite unlikely. Each of the earlier aircraft purchases had involved machines built in New York State, but Stinson the aircraft company was set up in Wayne, Michigan, and retained no traceable contact with the NYPD. The Reliant series was already a relatively popular type with pre-war flyers across the world. Other police forces were also associated with the type, Nassau County Police, also in New York State, had a similar model Stinson for a period in 1939.

At this stage in its existence the NYPD aviation bureau was part of the Emergency Service Division [ESD] of the NYPD. Twelve men, six pilots and six mechanics, were selected from the ESD to rebuild the aviation bureau under Inspector Arthur Wallander. This officer was a pilot and had formerly been acting Captain in charge of the 1938 unit. Some time before flying re-started these men were sent to Stinson's factory at Wayne and one of the Wright Aero Engine factories at Paterson, New Jersey, to work alongside the factory hands producing the aircraft and engines, in order that they might get to know intimately their future charges.

After the completed aircraft arrived the unit was re-dedicated in a public ceremony. Mayor La Guardia, a pilot in the Great War, was taken on a lengthy flight over the city. After the financial hiccup that had robbed the city of its police air cover was corrected the unit quickly returned to its former state of efficient service. One hour duration patrol flying was the standard tactic in daylight hours and after flying for six months in the Stinson's the crews were flying an average of 40 to 45 hours each month. As the aircraft tended to be on the ground far more than they were flying, where the weather allowed, patrol times were deliberately staggered to ensure that the aircraft were not habitually flying at the same time each day. At the time it was claimed to be the only organised municipal police aviation unit in the USA.

Others were also trying to fly for themselves, but most were held back by their small size and lack of finance. Many arranged with friendly local pilots for ad-hoc use of their aircraft, but this was an unsure system far from the ideal.

Autogyro's featured in US police flying only in a small way. Cierva had let a number of patents to US based companies, this leading to a variety of rotary wing craft from Pitcairn and Kellett among others. It is quite likely that a number of those constructed undertook some police or law enforcement duty in obscure areas but the only recorded instances relate to the use of Kellett machines.

The Kellett KD-1 of 1934 was a unique wingless two seat autogyro similar in general appearance to the Cierva C30 series and powered by a 225hp Jacobs radial engine. Built in Philadelphia, seven examples of similar Kellett machines were purchased by the US Army in 1938. The KD-1 was demonstrated in Washington during 1939, this leading to Eastern Air Lines winning a regular mail service back in Philadelphia some time afterwards. The contract was destined to last for one year using the KD-1B NC15069, a similar single seat machine which featured an enclosed cabin area. The operation bore many of the hallmarks of the unsuccessful British Cierva postal trials of 1934. The machine operated a shuttle from the roof of the local post office to Camden Airport.

This mail contract led in turn to the local Philadelphia Police Department [PPD] having use of a KD-1 for assistance in directing traffic during the Army-Navy Games early in the war, before America was herself dragged into the conflict. This and other small scale trials did not succeed in furthering any long term aspirations the PPD may have harboured. Air support flying in the city was still struggling to survive over fifty years later.

The PPD use of the Kellett was not the only law enforcement use of the type in the US. The US Border Guard [USBG], a law enforcement operation primarily tasked with ensuring illegal immigrants were not able to enter the country, had some use of a two seat model of Kellett for a period. Little is known of this operation, but it would appear that the agency had access to one of the Army examples, probably a YG-1B used at one time by the Autogiro training school at Patterson Field, Dayton, Ohio.

In the UK Sidney Chamberlain and other London "B" Department notables were involved in an early outside broadcast on the fledgling British Broadcasting Corporation [BBC] television service. After only three years of broadcasting the world first service the war was to close it down. Some months before this sad day, on Sunday February 5, 1939, BBC crews drew together the police personnel at Bignell's Corner on the Barnet By-pass, north of London. The 20 minute programme, "The Mobile Police" was conducted beside and along the Great North Road. Part of a series entitled "Television surveys", the content of the programme drew little on Chamberlain's aerial expertise. At the end of the transmission after thanking Chamberlain and his colleagues for their assistance, the presenters were able to announce their next programme in the series, "Television survey number 4", was to involve autogyro's. On Sunday February 19, the BBC team transmitted the programme starring Reginald Brie and the new Cierva C.40. As the highlight of the live programme, the female half of the television presentation team, Miss Jasmine Bligh, was taken aloft in the craft and transmitted her impressions of the flight live. There is no surviving evidence to confirm that the British police also managed to make use of this, the ultimate advance in Cierva autogyro technology. The last before the helicopter took over, it was arguably the best of its type available, and clearly known to Chamberlain if no-one else at Scotland Yard. It would appear likely that at least one test flight was arranged.

As war in Europe loomed, in 1939 the majority of the surviving Cierva Autogiro’s had gravitated towards the Hanworth factory. They were thus neatly in one place when war broke out later that year.

CHAPTER FOUR

War and peace

Not every nation was at war in 1939, many were reluctantly dragged into the fray at later stages. Other than a significant number of volunteers the USA managed to keep their people out of the direct conflict until 1941.

Of the immediate combatants in Europe only the British and Germans had prior police flight knowledge, the Austrian operation having been incorporated into the Reich in 1938. Contrary to Trenchard's intentions earlier in the decade, the British gave up all independent police flying and did not actively seek co-operation with the RAF.

In Germany the situation was somewhat different. After losing a large proportion of its strength to the formation of the Luftwaffe in 1935 and beyond, the police air units remained in being as flying units into the war years. Where, before the dismantling of the original formations, units had enjoyed the use of the most up to date flying machines, the independent force that remained was reliant on caste off second line military equipment. Known wartime equipment included Junkers Ju52/3m transports, and a variety of elderly liaison types from Focke-Wulf, Siebel and Fiesler. Reflecting the earlier front line fighter equipment the police also had at least one Messerschmitt Bf109 on strength. The known example [D-POL-98] was an early model 109B that would be unlikely to have acquitted itself on equal terms if faced with an enemy air force.

Unlike its Allied counterparts, the German police air arm was effectively a military unit which, like the whole of the German nation, became increasingly embroiled in front line war duties as the war progressed. At what stage it ceased to exist as a separate entity is unclear.

The Cierva Autogiro's gathered at Hanworth were soon called up to join twelve similar machines acquired by the military as Avro C-30 Rota's earlier in the decade. Each was called upon to serve in a vital role in defence of the British Isles. The C-30's ability to fly at very slow speed was identified as a significant feature in the calibration of the new British secret weapon Radio Direction Finding [radar]. The years of plodding slowly backwards and forwards in this vital role took their toll on the fleet, both the impressed civil machines and the military originals. By the wars end only a dozen of the mixed fleet survived.

Not all aspects of police flying were stopped by the war. The Joint Home Office and Illuminating Engineering Society Lighting Committee [IESLC] were authorised to undertake some live trials with the severely curtailed street lighting that a wartime *blackout* brought in September 1939.

Having the wholly reasonable assumption that the imposition of total darkness nationally would severely hinder enemy air operations over the British Isles, emergency powers were enacted to force everyone to comply with the edict. For the majority of the war it became a punishable offence to show an unshielded light at night - come rainy or moonlit night, whether the enemy was believed present, or not. A great deal of police effort was directed to ensure this was kept to a minimum. Unfortunately, it did not quite work out in the manner predicted. On the ground a situation was created whereby in spite of some severely shielded street and vehicular lighting, the copious use of white paint to highlight obstructions in meagre illumination, and other aids, pedestrians and vehicles were hitting each other with monotonous regularity. Road fatalities soared.

Traffic in the days before the wartime clamp down was in any case little in volume, slow and

poorly lit. The roads were narrow and rarely lit in other than major towns - and most of these only showed illumination during the first part of the night anyway, so a blackout situation was not a totally alien concept. It was the lack of flexibility, the adherence to the stringency of the rules at all times, that became the measure's *Achilles Heel*. As was to be clearly demonstrated, viewed from the air on a clear night there was so much upward light leakage, undetectable from the ground, that it was probably not worth all the effort it took to police it.

Initially undertaken at street level in London, *Blackout* monitoring activity progressed to flights involving a number of separate bodies. Included were representatives of the police, the British Standards Institute [BSI], the Illuminating Engineering Society and the Wembley based industrial concern, the General Electric Company [GEC]. The IESLC initially operated alone but required the police to provide a waiver document called the Lighting Restriction Order. This document enabled them to undertake their experiments unhindered, but on the clear understanding that immunity ceased as soon as an air raid was signaled. If they should be a bit slow in returning the area to the requisite *Blackout* condition they quite likely to end up being issued with a summons to attend a court. It did not happen of course, if only because such tardiness noted by the enemy posed a far greater danger to the experimenters than any magistrate.

The actual outcome of the series of experiments that this work embraced between 1939 and 1942 only serves to highlight the woeful inadequacies that the B*lackout* conditions suffered from.

After a number of days experimenting in central and west London, interest shifted to the City of Liverpool in the North-West. In late October 1939 the City Lighting Engineer, Mr. Robinson, had devised a new type of street lamp hood which had been installed experimentally in Castle Street, Liverpool. As this hood device was of an unapproved type, it was agreed that a fuller installation would be set up elsewhere in the area and then viewed from the air in due course. Although it was well out of their own area, Sidney Chamberlain and E R Hooper of B Department maintained an active watch on this and other similar experiments set up across the length and breadth of Britain.

The first aerial observation tests were to be undertaken over London on the evening of November 9, 1939. A range of lighting conditions were set up in selected areas of Westminster and Burnt Oak [near RAF Hendon] but, although the ground operations went well, the task was not completed by the aircraft that night.

The Liverpool experiment was the first successful observation flight. Mr. Robinson had set up the experiment in record time, the city managing to install all of the new equipment along a one and a quarter mile stretch of Speke Road and Speke Hall Avenue, beside the airport, in time for the viewing on November 17. Two flights were made from the airport. The pilot Captain Neish was accompanied by Hooper from the police in London and representatives from the Ministry of Transport, Westminster Council and Liverpool City Engineers. The Liverpool design of cowls were considered a success, pending the viewing of the official BSI design when the Burnt Oak, London, experiment managed to get itself going.

The London aerial viewing finally got underway two days later, on the evening of Sunday November 19. A civil registered National Air Communications de Havilland Dragon-Rapide flown by Wing Commander J G Hawtrey took Hooper and J Waldram, a representative of GEC, up from Heston to view the street lighting in the Edgware Road. This flight was considered a partial failure due to the moonlight being brighter than the possible benefits expected from the street lighting. In spite of the supposed *Blackout* the observers were amazed to see a myriad of pin prick light sources escaping from the inky blackness below them.

Two aircraft from Heston flew over the experimental street lighting on the evening of November 24. Again moonlight effectively outshone the dim street lights. The task was finally undertaken with a degree of success in a further flight from Heston on the evening of December 2. Hooper, accompanied by GEC's Waldram and Wing Commander Hawtrey were passengers in a Rapide flown by Captain Ashley and his R/T operator during a three hour flight that allowed them their

first glimpse of a dimly lit Edgware Road.

The “Home Security” flights continued into 1940 with a variety of crew mixes and target towns. Witney in Oxfordshire attracted Sidney Chamberlain as observer in place of Hooper in March 1940, the former finding time in spite of an increasing workload of arranging wartime road convoys. The pilot was again Captain Ashley. Although the light searching was not of a warlike nature. This activity effectively overcame an existing police taboo on “involvement” in war operations, thus embracing some parts of the Trenchard war proposals for police duties in time of war, set in the 1930s.

Early in the war Chamberlain gained an MBE for his war work with road convoys, and underscoring his status as a figure of some importance in civil hierarchy at Scotland Yard. Although observer duties were no longer to be his forte, he was still to re-appear on the police flying scene for another 20 years.

The experimenting with wartime street lighting tailed off as lessons were quickly learned. On October 21, 1941 Scotland Yard managed to arrange for their Mr. Haines to undertake a one and three quarter hour ride with an RAF crew undertaking an aerial survey of the London area from Northolt. Flight Lt. Haney was undertaking a similar task for the Air Ministry, the pilot was Squadron Leader Whitham. It was police co-operation, in arranging the setting out of ground marker lights for the flight, that alerted them to the availability of a spare seat. Being the first time he had witnessed the spectacle from the air, Haines was horrified at the extent of light leakage , particularly from moving motor vehicles. As the enemy was by now a rare visitor to the night skies of Britain it was officially decided by the police side not to make an issue of the situation. Logic suggested that should the raiders actually re-appear in any significant numbers there would be a massive, and voluntary, revision of the situation by those on the ground. Nonetheless, from somewhere, reports which can be attributed to this flight were leaked to the newspapers less than a week later in an apparent effort to stir the public into being a little more *Blackout* conscious.

Following on from this flight, in April 1942, the RAF teamed up with the Metropolitan Police and the Ministry of Home Security to undertake tests relating to vehicle lighting and aerial observation.

Ten Humber police cars, their lighting illuminated and masked in a variety of ways, were driven around Croydon Airport perimeter track as an RAF observer, Squadron Ldr. F J Haney, looked on from above. The results merely showed that whatever form of mask was employed, those attached to police cars being correctly fitted - were far more efficient than those observed on privately operated traffic passing by Croydon Airport on the public road.

Towards the end of the war, in May 1944, throughout the nation thoughts were straying towards peacetime activities and renewed attempts were made to set up a Metropolitan Police Flying Club. All too well aware that, contrary to earlier appreciation’s, police of all ranks were now serving in the military and in the air in large numbers, thought was given to the possibility of channeling these skills in the days of peace to come. As in the case of the late 1930s proposals, this scheme, wholly based upon the use of Slingsby built gliders, was to be investigated for a few months before finally being abandoned in the depression of mid-1946.

Helicopters were new to the world at large. Although the German’s had flown a helicopter before the war they had seen relatively little use during the conflict. The US Navy recognised that this unique type would be useful in the anti-submarine role even as Sikorsky was flight testing his first helicopter in 1943. The Coast Guard, a law enforcement organisation in peacetime but under the direct jurisdiction of the US Navy in time of war, was selected to undertake trials with the type. Ironically the first Coast Guard helicopters were two of the first Sikorsky YR-4s destined for Britain which were handed over for testing in the US prior to transporting across the Atlantic as part of the defence of a convoy. The operational delivery voyage, using a merchant ship as a flight deck, commenced in January 1944 with a multi-national crew of seven Americans and four Brit-

ish.

In the training period Coast Guard helicopter activity was centred at Floyd Bennett Field in Brooklyn, New York. In January 1944 a Sikorsky helicopter based in Brooklyn was used by the Coast Guard to fly blood plasma to injured crewmen to the USS Turner after the destroyer suffered an explosion off the coast of New Jersey. Later in the same year another helicopter had rescued a youth marooned on a sand bar off New York and undertaken combat rescue missions in the Far East, in these instances the helicopter had landed to take on the additional passengers.

Presaging one of the primary roles undertaken by the helicopter in the future, in late November 1945 a Sikorsky R-5 used a winch and simple loop harness to undertake the first civilian rescue of two men stranded on an oil barge which had struck a reef in Long Island Sound off Fairfield, Connecticut. The technique was then so new that the machine used was one operating experimentally from the manufacturers factory nearby. This was its first operational use. Significantly, although they did not take a direct part in it, the operation was undertaken at the bidding of the local police.

Even before the war in Europe had ended, one police force in Australia announced that it was to acquire an aircraft for police use. On April 18, 1945 the New South Wales [NSW] Government announced that it was honouring a 1941 promise made by NSW police Commissioner, William J MacKay, to some of his men as the set off for war service in the RAAF in seeking to buy a war surplus aircraft for transport duties.

The reasoning behind the decision to purchase a police aircraft was not conventional in terms of the modern European concept of law enforcement aviation. The acquisition was not intended to furnish a criminal searching and detecting machine, this was a police transportation system to overcome the vast expanses presented by the 500,000 square miles of the State. Then a largely undeveloped land area with poor communications and with only a limited police presence in areas beyond the coastal strip of the continent. The aircraft was primarily seen as a means whereby the police could transport centrally located trained personnel into the interior to back up resources already deployed in the field. Detectives, photographers and scenes of crime scientists.

Although the important decision had been made, over a year was to pass before the NSW police took ownership of an Avro 652A Anson I twin engine aircraft registered VH-AQV. Previously W2145 with the military, the police aircraft had to pass over a number of hurdles before a suitable machine had been selected. In February 1946 the Commonwealth Disposals Commission allocated the State of NSW an ex-RAAF Anson AW483 for police use. This decision was quickly reversed in favour of W2145.

The selected Anson was built in the UK and shipped to Australia in 1941. Equipped with a dorsal gun turret, it served throughout the war in the role of crew trainer, being finally taken out of military service immediately prior to passing to the police ownership. Passed to the de Havilland Aircraft Pty Ltd., at Mascot, for conversion to civil standard, the work included the fitting of new airways and police radio equipment, three passenger seats and the removal of the gun turret. The area beneath was converted into a police dog compartment. Dogs, even trained police dogs, could not be allowed the opportunity to roam free as much of the cabin wall was merely a traditional pre-war mix of wooden framework covered in doped canvas.

The aircraft was registered in July 1946, re-emerging for police service as VH-AQV *"Nemesis",* the goddess of retribution, a name chosen as it was the telegraphic code of the parent police force. On July 19, 1946 the silver and black aircraft was officially presented to the police by de Havilland's in a ceremony at Kingsford Smith Airport, Mascot. The first flight after conversion, and also the official date of registration, took place two days later. On July 19 the aircraft was officially presented to the press and public alike as the first of an intended fleet of police aircraft in NSW police service. One section of the local news media, *The Argus,* erroneously claimed that the aircraft was the first owned and operated entirely by a police force in the British Empire.

The NSW Police Aviation Section was manned exclusively by police officers, none of whom was excused a turn at normal duties by his attachment to the unit. Five pilots, all ex-RAAF personnel each with at least 1,000 hours flight experience, a Commercial Pilots Licence (CPL) and an R/T operators licence. There were three wireless operators who continued to operate the longer distance W/T facility, and two engineers.

The unit commanding officer was Sergeant F J Hanson, who was to hold the post of Commissioner in the mid-1970s. Prior to taking command of the unit Hanson served in various war theatres, being demobbed from transport duties in the rank of Squadron Leader. Each of the others in the unit held the rank of constable, or senior constable.

Aside from standard weekly flight testing, scheduled flying tours were undertaken by a two man crew on a weekly basis, the crew being recalled from whichever standard duty they were undertaking at the time the aircraft was required. The minimum reaction time was rarely expected to better thirty minutes, presumably on the basis that flight times and distances were so large that time to take off was hardly critical. *"Nemesis"* was operated in a general purpose role and the general acceptance of lengthy call out periods reduced the opportunities for aerial pursuits.

The Anson's workload included the carriage of urgently needed supplies 180 miles Tibooburra for onward transportation by the Flying Doctor Service (FDS) to the scattered victims of flooding in and around Broken Hill, a mining town 700 miles west of Sydney in March 1949. The FDS had been using its own three engine de Havilland Australia Drover and single engine Noordyn Norseman aircraft on this work. It was found that the availability of the police aircraft to supply Tibooburra released FDS aircraft for the task of air-dropping supplies on the affected area. Beyond this type of emergency operation there were numerous instances where the Anson crews transported officers from remote areas to undertake urgent, and even scheduled, court appearances, as well as the transport of search teams and dogs seeking a variety of missing persons.

During 1949-50 the aircraft market was investigated with a view to replacing the single Anson in police service. The favoured type was the British de Havilland Dove. It was not to be. For a wide range of reasons, the air unit did not grow as envisaged in 1945. The growth of police manpower resulted in changes to police working practices and these, allied to improvement in both wireless and road communications, resulted in a greater number of police personnel being based in the interior, close to potential demand. Each of these changes resulted in the high costs of continuing with aircraft being reconsidered. The demise of the air unit took effect with the sale of the Anson on August 31, 1950. It was not brought about by any shortcomings in the airframe, the Anson passed into private hands and flew for a further ten years.

The four years of fairly continuous operations by the Anson had led the field in Australia. No other police force in that continent was to follow suit and fly aircraft as a matter of course for many years after the demise of the NSW unit, most commenced flying in the 1970s. Regular police aircraft use was not to re-emerge in NSW until the force started using Bell helicopters operated by the NSW Department of Main Roads in the 1960s.

On the other side of the world the last item on the agenda for war weary nations, the victors and the defeated, was the provision of suitable aircraft for police use. Many faced the early war years short of food and short of money.

This depressing state of affairs did not stop the British based Taylor Aircraft Company (the name of the then makers of the wartime Auster light observation aircraft - later to evolve into Auster Aircraft), approaching the police. In October 1945, a matter of weeks after the end of the war, Taylor Aircraft wrote to Scotland Yard offering the Auster aircraft for police work. Unfortunately for any hopes the company may have harboured, the file fell upon the desk of the Assistant Commissioner CID for Crime. This officer could see no need for aircraft in his department. Fortunately the manufacturers of the little Auster aircraft were made of sterner stuff and, aside from any other contracts they might gain, would return to Scotland Yard.

Almost ten years had passed by since high ranking police officers had been involved with aerial devices of any type in a police role. In a period when the standard span of service, from training to retirement, was twenty-five years this was a significant span. Without a cadre of interested and informed senior officers there was little chance of progress in promoting expensive toys like aeroplanes in UK police service.

The fact that little tangible was ever likely to happen in Britain's cash strapped police forces did not deter the occupants of the House of Commons. As early as February 1946 the then Home Secretary, Mr. Chuter Ede, was answering questions on polie air support following the arrival of stories from the Dominions suggesting that Canada was investigating the possibility of creating an air unit. Someone in the British Parliament clearly had their wires crossed on this information as, already on its fourth aeroplane, the RCMP was actually considering adding some examples of the Beech 18 aircraft to the depleted post-war fleet.

Not unexpectedly the British Home Secretary dismissed the idea of setting up a similar unit in Britain as "unjustified". Sir Gifford Fox challenged the minister to explain what was to be done with air smugglers and pirates in the absence of a police air arm. Chuter Ede, undoubtedly caught out of his depth, declared that the means whereby the police thwarted such law breakers was secret".

It was somewhat simpler than the lame excuse given by the Home Secretary. In 1946 neither the police nor the government had taken time to bother and formulate an "air police" policy. It is highly unlikely that they would consider the production of any understanding relating to the specifics of smuggling and piracy for the simple reason that the responsibility for these fields of law enforcement lay, and still lies, with Customs and Excise.

In spite of the lack of funds, the Lancashire Constabulary were able to arrange for substantial resources, including an aeroplane, to be allocated to policing of the first post-war Grand National race at Aintree Racecourse on Friday April 5, 1946.

The Aintree horse racing course lies immediately to the north of the City of Liverpool. In the 1940s, the responsibility for policing the race meetings, and the heavy traffic approaching it, fell upon Lancashire Constabulary. This task was undertaken with the assistance of the police of Liverpool City, a force which took the area to the immediate south of the venue.

In early 1946 all police forces were chronically short of men. Most of the war duty reserve staff had returned to their peacetime tasks, but in many cases there were large numbers of police still trapped in military units across the country awaiting demobilisation prior to returning to former police duties. To make up for this lack of policemen, the Lancashire Chief Constable, Captain A F Hordern, sought to tap into the large numbers of men of all callings awaiting demobilisation in military camps across the county.

Hordern was able to muster 1,000 police and 100 wireless cars from his own resources. He approached the military authorities seeking some additional resources and found himself welcomed, for they were in the reverse position of having large numbers of under-occupied men looking for something to do for just a few days.

As well as the vast surplus of men there were supplies in numbers to match, all lying idle and awaiting sale or destruction. The roads approaching the Aintree course were marked and cordoned off by a vast number of military signs, items again so plentiful and familiar that after their sudden reappearance on the street it must have seemed to some that the war had not been over for six months after all! Hordern's subordinates were able to post a military stretcher party and a signals section at each of the jumps and to cover most of the exterior road junctions with an abundance of police or army personnel. There were so many men available that the aircraft brought in to keep an airborne eye on the proceedings was all but superfluous. Like the men and other equipment the aircraft was manned by the military. In spreading the theme of co-operation,

the Auster was one of few operated by the Royal Navy and the Aintree machine is believed to have been LB372, one of only three possible choices. On its first day present, the Thursday, the Auster did not even leave the ground to assist. On the Friday, Grand National Day, it went up to transmit general traffic condition reports and became involved in the only worthwhile traffic jam incident of the whole meeting.

By 1230 on the Friday the pre-war car parking areas were brimming with 15,000 vehicles and all the emergency parking areas were brought into use. The total crowd watching Lovely Cottage winning the 1946 Grand National was estimated to be in excess of 500,000 people. Although, because of the excessive numbers of men on the ground, the Auster was not able to shine on the day, it put on a sufficiently good performance to ensure that its talents were appreciated by those likely to be involved in future events.

That, almost wholly military, occasion was not to be the last of police flying over Aintree. On March 29 the following year an almost identical set of arrangements was put in hand but, on this occasion using only police staff and a hired civil Auster aircraft. The observer on this occasion was Lancashire's Chief Superintendent W H "Bill" Mercer. Chief Constable Hordern later claimed that the presence of the aircraft had resulted in the crowd dispersal time being reduced from around three hours to a mere three quarters of an hour.

Although confirmed facts for each succeeding year are sparse, it would appear that there was air cover over the Grand National Aintree almost continuously from the 1946 event. It is known that in April 1949 a twin engine Miles M65 Gemini, G-AKHB, took Mercer and a Marconi "walkie Talkie" radio set over the race-course on Grand National Day. Later the same year the same officer was employed in undertaking observation over the heavy traffic attending the switch on of the first post war Blackpool illuminations. The superintendents final involvement with the Lancashire air observation task over Aintree took place on March 25, 1950. Coincidentally, with the renewed patronage of the Monarch this was also the first "Royal" race meeting of the post-war era.

On April 17, 1951 an Auster aircraft was again employed on traffic control over Aintree. On this occasion Mercer was replaced in the observer role by Sergeant Gerald Lewis DFC, a wartime night fighter pilot and Pathfinder. This officer was to be the regular observer for the following few years. For the 1952 event the police moved their local command post wireless into the grandstand area for the first time.

Except in the islands of the UK, the regular annual air observation undertaken by the Lancashire Constabulary was not a major event in terms of its importance to the overall development of police aviation. In comparison with activity in other parts of the world it meant very little. Looked at within the insular world of the UK policing it took upon itself an importance far beyond its worth. It was a police force doing something when all around were not.

In some areas of Britain the years immediately after the war were marked by a degree of lawlessness as the population came to terms with the peace. It was not only the indigenous population, there were foreign groups, large and small, many formerly in the military, refugees and displaced persons faced with making important decisions about their future. With Europe ravaged by the effects of the recent conflict housing, any housing, was at a premium and many were starving. In addition, many distant states, including Poland, were falling under the iron grip of Stalin's Communists and large numbers were unsure whether to leave Britain even though the situation, and the amount of financial support, was bleak even there. This situation led to a number of the temporary population resorting to crime merely to survive.

On Monday June 2, 1947 it was announced that three Polish soldiers had escaped from Norwich Prison during the previous Friday night and Saturday morning [May 30-31] and were on the run in East Anglia. The three, were Teodor Kutcz who was awaiting deportation, Wlaydslaw Beijecki and 22 years old Stanislaw Zobrowski a battle hardened young soldier who had recently been sentenced to 9 months imprisonment at Suffolk Assizes for theft of tobacco at Livermore near High Ash, Suffolk.

The following day it was reported that police officers keeping watch on an abandoned stolen car were fired at when they approached it. A sten gun was thought to have been used. Kutcz was subsequently recaptured and arms were issued to officers engaged on the search. For officers unused to arming themselves for their civil policing duties these weapons were an ad-hoc range of country weapons, mainly shotguns, and war surplus revolvers.

On Wednesday June 11 two Norfolk police officers, including PC Walter Brown of Weeting, were fired at in Mundham. One man, Ronald Spalek, was arrested and taken to Methwold police station. He was remanded at Methwold Court on June 17, charged with shooting PC Brown with intent to murder. It appears that he joined up with the others at some stage after the break-out but this is unclear and there may have been no connection other than an assumption on the part of the newspaper. On the same day as the shooting was taking place in Norfolk arrangements were set in train for the use of a Westland Sikorsky S-51 helicopter by the police. It is possible that this was also to be the first such event in the world.

Every helicopter mission by helicopters in the mid-1940s was producing "firsts". On the British side of the Atlantic Ocean there were few helicopters. The British police had become familiar with the rotor by way of the autogyro before the war and the military were using small numbers of early helicopters designed by Sikorsky. Westland's the Yeovil based aircraft manufacturer moved towards building helicopters designed by others and eventually became the sole major helicopter manufacturer in the UK. Westland had a long history of building conventional aircraft but not having its own design capability for the new class of aircraft it sought to enter into an arrangement with Sikorsky in the USA to build their helicopters under licence.

The first Westland licence built example of the S51 was not to be airborne until 1948. Before the UK manufacturer built its own version they bought a total of six from the US production line as pattern aircraft. In June 1947 there were only two of these civil Sikorsky S-51s in the UK, one was G-AJHW and the other, G-AJOO. G-AJHW first flew in the USA on February 18, 1947 and, dismantled and crated, was delivered to England by sea, arriving at Westland's Yeovil factory on April 14th . As a tried and tested type already in the USA although it only first flew in the UK on April 18 it received its UK Certificate of Airworthiness [C of A] on the 24th. From that point on the it was used for manufacturers trials and as a demonstration aircraft. After brief military trials in 1948-49 it returned to civil use with BEA and eventually left the UK for Canada in 1957. The second example was re-flown in Britain on June 6.

As the police in Norfolk were under fire on that Wednesday June 11, Westland brought both of its new helicopters to land on the tennis courts of the Harrods Sports Club in Barnes, South London, to present them to the press. The first machine was flown by Squadron Leader Alan Bristow and the second by Squadron Leader LP "Pete" Garner, they were there for two days undertaking a number of trips over London for press photographers including those of the London based national the *Daily Express*. During this presentation Superintendent N Garner of the Norfolk Constabulary accompanied his son, Peter Garner, an ex-Mosquito night fighter pilot and assistant experimental test pilot with Westland Aircraft, in being flown over London in the Sikorsky S-51 G-AJHW by Alan Bristow the Chief Pilot for Westland. The air experience flight was to have far reaching effects. In this report the Superintendent was quoted as saying "Helicopters will be of wide value to the police in making arrests or rescues".

Soon made aware of dire twists involving the search taking place in his own police area and now aware of the potential capabilities of the helicopter, on June 14, Superintendent Garner broached the question of a possible loan of a helicopter by the Norfolk Police with Peter. The request was passed on to the aircraft company and Westland promptly agreed to the free loan of their new machine as a public service and as a marketing exercise. Underlining the urgency of the situation, there were further news reports on June 14 and 16 which related to break-ins at Methwold and Thetford. At the latter incident shots were fired when a man was disturbed attempting to steal a car.

As Westland's senior pilot, Alan Bristow was sent to Feltwell in S-51 G-AJHW on June 15 1947. Following three years as a Fleet Air Arm pilot and nearly two years in the Westland test piloting post, in a period when rotary wing pilots were rare Bristow was an experienced helicopter pilot. He qualified on the novel type at the US Coastguard base at Floyd Bennett Field in June/July 1944 on the Sikorsky YR4. At the time Idlewild Airport [later JFK] was being built on a site immediately adjacent.

The novel police operation attracted the attention of *Daily Express* photographer Walter Bellamy and he accompanied Alan Bristow and Methwold based Inspector Brunson in the S-51 to search an area of East Anglia where the Poles were last reported. Brunson was armed with a .38 Webley revolver.

The search area decided, the trio flew a "creeping line ahead" flight pattern over the area. Alan Bristow saw smoke rising from a shack in a heavily wooded area. As it was unusual to see smoke coming from what appeared to be a gamekeepers shed in summer, the helicopter circled the site reducing altitude to about 150 feet above the shed until a suspect on the ground opened up with a 12 bore shotgun, fortunately without damaging the helicopter. The inspector called in ground support forces and the armed suspect, probably Beijecki, was captured shortly afterwards. The helicopter search lasted two and a half days, no further members of the band of renegade Poles were captured using it. Certainly the first use of a helicopter for criminal police work, this operation would also seem to be a likely candidate for the first of its kind in the world.

On Wednesday June 18 local and military police raided a Polish re-settlement camp at High Ash and arrested 53 people. Twelve pistols were seized. The following day, June 19 it was reported that a dishevelled man, identified as Zabrowski, was seen with Polish soldiers at North Bodney Polish Camp. A green Polish Military motor-cycle and several army pay books were stolen from the camp. Armed police searched the military battle training area and a warning was put out that he was believed to be armed with a razor. The following day many of the newspapers carried a picture of the young fugitive.

That weekend, Saturday June 21 the newspaper carried a first report on the resettlement camp raid and reported that the search area was being widened with officers now working from their own beats rather than assembling at Thetford daily as had been the case previously. At this stage the newspapers stated that army had not been called in although there had been reports of military personnel volunteering their services. One such was that an RAF warrant officer and a corporal from the 14/20th Hussars had started searching in their own time using an ex-US Army command vehicle.

Stanislaw Zabrowski had remained on the run for a total of 23 days, when he was finally recaptured in Essex on June 22. Zobrowski was captured in Rochford, Southend-on-Sea, following an thwarted attempt at breaking into a car. He had fired shots when disturbed attempting to steal a car at Southchurch and was later spotted by the local vicar in Rochford. The capture was affected by DI Hempson assisted by around a dozen other officers. The detective jumped out of a car whilst passing him on the road. He offered no resistance, but when taken into custody he still possessed a German Luger pistol and six rounds of ammunition.

The following day he was in front of the Magistrates at Southend and remanded into the custody of DI Kybird and DC West from Norfolk. The next day he was remanded at Methwold Magistrates on the next stage of his return to prison .

Peter Garner, the pilot who appears to have facilitated this, the first recorded use of a helicopter in police work, was still acting as Test Pilot to the Westland company when he was killed on October 15, 1947. During an air-to air photographic sortie, Peter was piloting Westland Wyvern fighter prototype TS375 when the propeller failed. Alan Bristow was flying nearby in G-AJHW when Pete called him up and reported the failure and seizure of the translational bearing between the contra rotating propellers. Faced with the enormous drag presented by the six stationery propeller blades, Pete elected to stay with the aircraft and managed to bring the large aircraft

into a perfect wheels up approach to a long narrow field near Yetminster as Alan headed towards his position. As the helicopter approached all appeared to be going well as the stricken Wyvern approached what was probably the best field in the area to put down in. The fighter rushed along the ground on its belly rapidly losing speed, crashed through a dividing hedge into an adjacent field. Unfortunately, one of the propeller blades came off and smashed through the windscreen and killed Pete. Alan landed nearby, but it was too late.

A few days after the Norfolk search, on June 19, Alan Bristow again accompanied the press photographer on a *Daily Express* chartered flight to a crime scene. On this occasion the pair set off from Croydon in G-AJHW in search of a man and a woman who were reported lying naked amongst the bracken and bushes somewhere unspecified on Epsom Downs. After two runs over the area they found the couple and directed members of the Metropolitan Police to the exact location. This incident, featured searching police officers on the front page of the following days *Daily Express*. The incident was quickly resolved as a suicide pact. The photographs taken on this sortie were sped to London, delivered by air, when the pair landed on Horse Guards Parade immediately afterwards.

On August 12 1947 Bristow was again the pilot when G-AJHW was used in an abortive search for a prisoner reported to have escaped from Princetown Prison, Dartmoor. Accompanied by locally based Inspector Turner, Alan flew search patterns in a 20 mile radius around the prison before abandoning the task.

Continuing the police theme he also took the S51 to Number 4 Police Training centre Ryton-on-Dunsmore, Warwickshire, for demonstration on September 25, 1947. Alan gave the police officers at the training school a short talk on how he believed the helicopter could be an advantage to police in their work. Chief Constables Bond, Jackson and Young each took a demonstration flight in the helicopter. This recently re-established training school was situated in a former displaced person's camp and was tasked with the training of recruits and other ranks. Later there were to be other aerial visits.

The United States, with large sections of its economy enhanced giving succour to the war, was able to continue with police flying virtually unimpeded. The volunteer pilot scheme, set up in the Los Angeles County Sheriff's [LACS] area of California in the same period as New York set up their full time operation, continued successfully, and remained virtually unchanged until 1962. Additional resources were donated to the LACS by leading Hollywood figures shortly after the end of the conflict. The first aircraft owned was a war surplus Fairchild 24 aircraft donated by the famous actor Robert Taylor. The Fairchild was a four seat high wing utility aircraft in the mould of the New York Stinson's but equipped with a fixed land undercarriage. A short time later, Clarence Brown, a movie director working at the MGM Studios also donated a Stinson L5 aircraft to the Sheriff's fleet. The Stinson L5 was a compact army spotter aircraft, considerably smaller than the New York aircraft and equivalent to the Auster used by the British. It remained in service into the 1960s. Helicopters', in the form of the ubiquitous Bell 47G, were not to enter service with the LACS's fleet until 1955.

War surplus types became a feature of many US police forces in the early post-war years. Many instances of citizens acquiring and painting up private aircraft in police related markings have led to subsequent confusion. It is clear that most of these did not relate to an officially established police formation. One instance is presented by the situation in Oakland, California, in the summer of 1946. A number of privately owned types, including a Vultee BT-13B NC66707, were noted at Hayward bearing official looking marks clearly showing them to be the Oakland Police Air Patrol. Whilst these aircraft may well have undertaken a number of police support flights in the manner of the contemporary LACS operations, Oakland Police themselves do not acknowledge any operations prior to 1969.

New York used its pair of Stinson Reliant aircraft throughout the war, but following the declaration of peace these gave way to two modern amphibians from Grumman Aircraft - the successor company to the pre-war Loening. The first acquired, in November 1946, was a G44 Widgeon and

the second, taken over in April 1947, was a war surplus G21A Goose. This Goose aircraft had previously served on war duties with the Royal Navy. Both aircraft were a notable departure for the NYPD aircraft fleet in that they were twin engine flying boat designs of substantial proportions when compared with earlier equipment. Destined to be the last fixed wing equipment operated by the NYPD, the twin engine specification was also to be a rare feature over the Big Apple.

Nearly twenty years after it was formed to rid the City of New York of rogue fliers that its part time predecessor had failed to address successfully, the NYPD air unit was still tackling the problem. Although greatly reduced the problem persisted. There were enough calls to law breaking pilots, stunt flying, force landings and crashes for the authorities to pass a new local ordinance interpreting violations of the Civil Air Regulations as misdemeanours attracting more stringent fines and the threat of licence revocation.

In 1947 the NYPD became the first recognised US police air unit to seek to operate helicopters. A single Bell 47D, NC201B, equipped with large pontoon floats was delivered for trial operations from the NYPD facility on the edge of the US Navy Floyd Bennett air base, commencing in September 1948. The specifying of the pontoons on the new helicopter reflected both a long tradition of amphibian aircraft and an acknowledgment of a degree of unsureness surrounding the reliability of the single piston engine powering the machine. The last thing anyone wanted was to lose the pioneering craft in New York harbour through engine failure.

In the period when helicopters were being introduced the unit had a strength of seventeen, seven pilots and ten mechanics. Credit to being the first recognised civilian police helicopter pilot is given to Gustav “Gus” Crawford of the NYPD. Gus was born in New Brunswick, New York State, before the Great War but started his flying career in Kansas in 1929. Thwarted in his attempts to become an airline pilot by the stock market crash he returned to New York and, with many others, applied for a job with the newly formed NYPD aviation unit. He failed, but finally secured a position as a foot patrol cop in 1932. When the air unit was re-activated in 1939 Gus was taken on as one of the six pilots, by 1945 he was the commanding officer of the Air Bureau.

In 1946 Gus Crawford was selected to go to Bell Aircraft Corporation in Niagara, New York State to learn about the helicopters they too were now building. The primary purpose was to advise the city officials about their possible uses for a variety of tasks - including mail transportation. He was already aware of the few examples operated in the New York area by the Coast Guard.

After a month he was back in the city, not only with a helicopter licence, but with an instructors certificate also. He was so convinced of their worth that it was not long before he set about convincing Mayor O’Dwyer that the police should have them on trial as a rescue craft. His recommendation was accepted.

Initially three pilots were trained to fly the helicopter with others being added to the total. In 1949 the unit undertook 300 individual missions, including 63 responses to distress calls from boats.

Shortly after the introduction of this Bell helicopter, on March 30, 1949, four prisoners’ escaped from the Riker’s Island Penitentiary in the East River. Called in, the helicopter flew low over the island searching roofs, docks and exposed shores where the prisoners might have secreted themselves. A task that ordinarily took a large squad of men a whole day to accomplish, it took only fifteen minutes to search the whole of the island. A number of further irregular air searches were operated throughout the day. The following day the escapees surrendered to the authorities on the island. Although safely concealed from the prying eyes of the helicopter crew beneath a dock, they had been constantly aware of its presence and had been unable to make a run for it without being spotted.

Although this incident did not in itself promote the observation capabilities of the helicopter above that already proven by fixed wing aircraft for over twenty years, it was a good start. Even intermittent search patterns had an effect upon the target way in excess of the actual capabilities of the aircraft and crew. An ability to hover above a potential hiding place further heightened this fear by

the hunted.

In June 1950 the first helicopter was withdrawn from service and replaced by three newer Bell 47s offering a slightly enhanced specification. The three helicopters continued to operate alongside the fixed wing Grumman machines until November 1955, at which time the helicopter fleet had grown to a total of six, and the fixed wing element was finally withdrawn.

The introduction of the helicopter into NYPD service is accepted as the first law enforcement helicopter operation, and there is no dispute that it was the first successful long term use of the new type of aircraft. In fact there was another slightly earlier introduction of the helicopter into law enforcement service in Eastern Europe.

Czechoslovakia was a country born out of political expediency. In 1993 the former nation split into two and became the Czech and Slovakian Republic's. Police aviation in the formerly united countries has been traced back to the use of a SPAD bi-plane fighter under unknown circumstances in 1920. Before the Second World War the nation had undertaken extensive law enforcement flying from the 1930s until the nation was engulfed by the Nazi war machine during March 1939. The aircraft employed by the military structured Czechoslovak Gendarmerie [Cetnicke Letecke hlfdky] included a number of aircraft types which clearly indicate a military background. The Skoda D-1, Aero AP-32, Avia B-534 and Letov S-328 were all types appropriate to military service as spotter planes and fighters.

After the cessation of hostilities the nation acquired a number of war surplus aircraft from the British, Russians and the Germans on which to build up a new defence and air police structure. In the immediate post war years Czechoslovakia allocated a number, at least five, Supermarine Spitfire LFIXe fighters for duties with the Bezpecnostni lectectvo [Frontier Patrol], operated as the type S-89. Flying alongside these were other war surplus types including the Avia S-99, S-199 and the S-97. The S-99 and the S-199 were better known as late production examples of the Messerschmitt Bf109 and the S-97 was actually the Russian Lavockin La-7.

Most of the aircraft used had been manufactured in Czechoslovakia in support of the war effort of the invaders. Where the S-89 was a complete and standard Spitfire imported from Britain the S-199 was a hybrid of the locally built Bf109 featuring a Junkers Jumo 211F engine in place of the original Daimler-Benz DB605 which was no longer available. Unfortunately the less powerful Jumo was more at home on a bomber, it was considerably heavier and the larger three blade propeller produced such increased torque that the original vertical stabiliser and rudder could barely cope, especially on take-off and landing. The S-199 was known locally as the Mezec - or Mule - a name which aptly described its capabilities. The change in engine reportedly resulted in the former 400mph fighter being restricted to around 200mph. Many of these Avia's, disliked by the Czech military, and clearly of little tactical use were supplied to the police. Other examples were sold to the fledgling Israeli Air Force in total disregard of an existing, UN-imposed, arms embargo. It can be assumed that this move was primarily to get rid of them, the customer in Israel having little choice in the types it acquired with the world against it. The aircraft were not a success there and were later replaced in Israeli service by Spitfires also supplied from Czech stocks.

The employment of these unusually aggressive types for police patrol was apparently out of place in peacetime but, in essence, they were only late 1940s equivalents of the military surplus types operated by the German and Austrian police in the immediate post Great War years and the obsolescent Bf109B fighters operating with the Germans earlier in the decade. The former combatant types remained in service alongside locally produced examples of other German aircraft including the Fiesler Fi-156C Storch spotter [the Mraz K-65 Kap] and the Arado Ar-96B trainer [the Avia C2B] into the early 1950s. Operating alongside these former fighting aircraft on police duties was an Avia VR-1 helicopter. As with the Avia fighter types the type designation hid the work of a German manufacturer.

The Focke-Wulf Fw 61 flew in 1936. The Germans came to the forefront of rotary wing flight with

this machine, the worlds first helicopter, which gave a convincing demonstration of practical helicopter flight. The designer, Doctor Focke, had gained rotary wing experience through the German building of Autogiro's under licence to Cierva. The Fw 61 was an ungainly but efficient craft featuring side-by-side fully articulated rotors on outriggers, a feature that removed the need for a tail rotor. Cyclic pitch was used for directional control and collective pitch for lateral control. The Fw 61 was developed into the Focke Achelis Fa 223 during the war years, most of the production examples being destroyed by Allied bombing.

At the end of the war the battered remains of the Nazi war machine was stripped bare and examples of any type displaying a modicum of technological advance were sent to the four corners of the earth. After the Allies had taken their fill of the nine year old Focke-Wulf helicopter production line Czechoslovakia was allowed to pick over the remains of a few examples. After the now dated helicopter design was re-worked by the former Avia aircraft factory technicians, now operating as Ceskoslovenske Zavody Letecke [CZL]. Two examples of the German design reappeared in the air as the Avia VR-1 and VR-3. Overshadowed by later examples of helicopter technology, it was not a successful metamorphosis.

In the spring of 1948, a single example, the VR-1 OK-BZX, was released to the Ministry of the Interior. From March 12, 1948 [some six months prior to the setting up of the NYPD helicopter operations] the Avia was made available for law enforcement duties with such as the Bezpecnostni lectectvo. It officially entered service in the April and was finally written off in 1949 - just as police helicopter operations were getting into full swing on the east coast of the USA. Another ten years were to pass before helicopters re-entered Czech law enforcement use.

Little tangible progress was being made in Britain, what passed for progress was invariably little more than hot air and theory. In its wide agenda, the 49th meeting of the Central Conference of Chief Constables held on February 26, 1948 heard that the Superintendent's Central Committee had suggested that the use of aircraft in certain branches of police work should be examined and that regulations should be drawn up governing the procedure to be adopted when seeking the assistance of aircraft. The conference resolved that is was not necessary to draw up such regulations, it was deemed that the simple procedures required to call out either civil or military aircraft were well known but rarely invoked. Unfortunately no one at the conference addressed the major problem holding back the progress of police aeronautics - the lack of cash.

If finance was lacking, the interest in operational police flying was still alive in a number of important areas. Sidney Chamberlain OBE, DFC, was regularly called upon to give talks of his experiences in pre-war police flying to the newly opened Police College at Ryton-on-Dunsmore, Warwickshire, and other bodies. Almost the last of the "old guard" of flying experience at Scotland Yard, his wide knowledge of the subject overcame much of the natural reticence his civil position in the police engendered in police officers of the time.

The Ryton Police College, which Chamberlain first visited shortly after it re-opened in a new guise in September 1948, was the replacement for Trenchard's Hendon College of the 1930's. With the bad feeling Hendon had engendered against graduate police in the lower ranks in the 1930s, the College had been "moved sideways" and now, with a different class of pupil from Trenchard's ideal, was situated in the former displaced person's camp. Perhaps it was appropriate under the circumstances. Many years later the College overcame its identity problems and moved to somewhat better accommodation at Bramshill, Hampshire. Just like the Hendon College had before it, Ryton then turned into a recruit training school.

As had been proven at the 1948 Chief Officer's Conference, the acquisition of hardware continued to prove expensive and elusive, but talk was plentiful and cheap. In a country where domestically produced helicopters were still to prove themselves capable in a police environment, the only examples readily available were a few from Sikorsky and Bell. Committees sat to talk about the expected capabilities of, rather than the introduction of helicopters. The situation was to change shortly but the first report of the grandly titled Inter-departmental Helicopter Committee in September 1950 usefully summarised the principal characteristics of the helicopter in a manner

that, with the benefit of hindsight, appears naive.
(a) its ability to fly slowly and to hover
(b) its ability to ascend and descend vertically,
(c) its ability to use small and restricted areas for take-off and landing and hence its ability to move from point to point in three dimensions.

There were a few brighter moments in the furtherance of police aviation in Britain, unfortunately the majority of these revolved around trials, trials and yet more trials. In 1949, and again in May 1951, the Auster company teamed up with the "Tannoy" loudspeaker manufacturing company to present their latest aerial speaker systems. Much later generically known as "Skyshout", the idea was not entirely new, but carriage on the light Auster was. Typically ugly, as are most prototype installations, for the 1949 display the large speakers were slung below the wings of, G-AJIZ, the aircraft then acting as the company demonstrator for the high wing spotter aircraft The equipment in the repeat display in 1951 was little changed but featured an improved speaker array fitted to another Auster demonstrator. According to the police file on the second event some disquiet was expressed by officers when they were unable to ascertain which of them had attended the 1949 display. Embarrassingly, the hosts at the Auster factory insisted that Scotland Yard representatives had been there but nothing was ever found relating to it in their files. This second trial had little to do with British policing in 1951, any more than the obviously forgotten event two years earlier.

Severe storms lashed the seas around the United Kingdom at the end of January 1953. Many ships and smaller fishing craft got into difficulties, culminating in the sinking of an Irish ferry off Scotland with heavy loss of life. Late on the night of Saturday January 31, a combination of adverse winds and high tides resulted in large areas of the North Sea coasts of Britain and Holland being inundated by freezing flood waters which caused many deaths. In Britain the east coast areas of Lincolnshire and East Anglia and Kent were waterlogged, but the worst effected area was Essex.

By the Sunday afternoon, February 1, the flood waters were receding back into the North Sea leaving many areas still cut off. Some Essex districts had no contact with the rest of the county for many hours. One such was Foulness Island, a largely military occupied desolate mud bank of an area primarily used for weapons trials. A number of agencies, wishing to find out what the situation of the 290 people living on the island was explored all possible avenues in pursuit of concrete news.

The same afternoon, one of those having a professional interest in the situation on Foulness, the police inspector stationed in the mainland town of Rochford, made enquiries at the local Southend Municipal Airport. He found that the airport had already sent up a Miles Gemini light aircraft, G-AIRS, belonging to the local Municipal Flying Club on disaster observation duties over the whole of the Thames Estuary area. Unfortunately it was learned that the aircraft had not overflown Foulness and was unable to report on the situation there. As a result of the police inspector's request the Gemini was sent up again to undertake a specific reconnaissance of the area. the pilot was back shortly after six, by which time darkness had returned, with reports that he had seen a number of families at the upstairs windows of flooded houses - most had waved to him, which was a promising sign. Other sightings had included a lone man in a boat and a military policeman on a rooftop. It was to be the only flight undertaken at the direct request of the police throughout the emergency.

In the meantime the Essex County Constabulary headquarters had also been exploring avenues of obtaining information on Foulness and had also investigated a separately contrived solution. At 1645hrs contact was made with the RAF at Kenley, Surrey. It was hoped that this air station could be asked to widen the scope of operating rescue plans primarily evolved long before for rescue operations at the military establishments. The police found that they were having their own problems in attempting to rescue as much as they could from the various military sites under their charge, including Felixstowe, Suffolk, in a situation that was far worse than expected.

Rather than send the requested helicopter, with night fast approaching the RAF Duty Officer suggested the use of a civil lifeboat to undertake a search of the area in the dark. The RAF officer offered to call out the lifeboat and in the meantime arrange for the sending of an unspecified reconnaissance helicopter from the fleet of the Aeroplane and Armaments Experimental Establishment [A&AEE] RAF Boscombe Down, Wiltshire, early the next morning. In addition an aerial survey of the flooded area around Foulness was to be undertaken by a photographic reconnaissance aircraft the next day.

The flood, and the level of resultant fatalities, was worse in Holland. A result of this was that most available helicopters had been drawn across to the other side of the North Sea. In the region of 2,000 rescues were undertaken by a mixed bag of 38 helicopters drawn from many nations, including the civil fleet of British European Airways Helicopters [BEAH].

Helicopters still being a relatively rare commodity, the few helicopters remaining available in Britain and involved in the domestic emergency were apparently not called upon to attempt a great deal of rescue work. Incapable of heavy lifts at this stage of their development, and not really suitably equipped for extensive flight in inclement conditions, they were restricted to undertaking a series of fact finding flights in daylight. Part of the problem was the unfortunate timing of the disaster. As peacetime armies the world over still do, the military throughout Europe had run down its strength for the weekend and the floods broke through on the Sunday morning, all of which required the recall of staff from all parts of the country whilst the emergency cover teams on duty at the weekend found themselves inundated by the scale of the disaster.

Most British operations undertaken at this period were in variants of the Westland WS51 Dragonfly. The Sikorsky derived type was good for its time but, with a small crew and cabin area, it was unable to undertake large scale rescues. The Royal Navy, 705 Squadron, sent one of their Dragonfly's, identified only as "Playmate 61", from West Malling, Kent, on the Monday. The Fleet Air Arm crew reported that no-one was in dire need of rescue at that stage and that other agencies were managing using more conventional transport by this time.

They were difficult times for what were to prove the last days of many of the European nations colonies scattered across the world. Most affected were the possessions of the former British Empire, in the wake of the war it was slowly breaking apart as the subjects in the former Colonies were attacking the whites in the hope of finally driving them from their lands. The cold forces of nature were raging against the east coast of Britain, but in the warmth of Kenya the danger lay in the bloody attacks by native elements - the much feared Mau Mau.

The Kenya Police Reserve Air Wing [KPRAW] was created in 1948. Although classified as a Reserve unit in name, this was no weekend escape from the wife and family, for the members were tasked with a dangerous and deadly duty. The KPRAW was set up in 1948 under the direction of the provincial commandant at Nairobi West, Wing Cdr. A N Francombe, DSO, MBE. Originally equipped with only one Auster, the Air Wing chartered other aircraft when required and operated into a few airstrips up-country, principally in the Abadare Mountain range to the north of the Capital, Nairobi. Expansion was thrust upon the KPRAW by the declaration of a state of emergency in October 1952. Through bloody intimidation the Mau Mau had established a strong hold on the Kikuyu tribe, this leading to the massacre of 84 natives near Nairobi in March 1953. Murderous attacks on Europeans, police and security forces followed. It was the classic scenario of countries seeking freedom from Colonialisation, the widely feared Mau Mau were freedom fighters to at least some of the native blacks, terrorists to the whites and others.

The KPRAW was unconventional and ad hoc. A motley collection of light civil aircraft and pilots in which almost anyone who had the use of a light aircraft could give his services and earn enough to pay for it. The pilots included one "Punch" Bearcroft who only had a single arm but was reputedly capable of flying in a manner better than anyone with two.

Following a review of the available light aircraft, bearing in mind the high altitude requirements, load carrying ability and rough landing characteristics necessary for operations in Kenya, in April

1953 the KPRAW was set for expansion with the purchase of ten Piper Tri-Pacer 135s. In addition to the mounts of the private flyers, other types in police operation by 1955 were two Cessna 180s and a Chipmunk used for communications and mail delivery. All were civil aircraft on the VP register.

The Piper's lived up to expectations, proving very versatile and capable. They were used for a range of duties, supply dropping, target marking, bombing and close support of army patrols in the forests. Even though the aircraft were built as compact trainers, with the rear seats removed the Tri-Pacer's were capable of carrying 300lbs of freight when flown solo, or a dispatcher was able to oversee the dropping of ten supply packages from the cramped cabin at altitudes up to around 10,000 feet. Powered by a 225 hp Lycoming engine, almost twice that of the Piper, the pair of newer Cessna 180s were capable of air-dropping 600lbs at an altitude of around 12,000 feet.

The main operational base of the KPRAW was at Mweiga, a 1,200 yard grass airstrip at an altitude of 6,200 feet in the Abadare Mountains. This was an open fort protected by the King's African Rifles and surrounded by a protective stretch of barbed wire

The primary operational use was co-operation with the patrols engaging the Mau Mau, this sometime resulting in the police aircraft being called in on bombing runs. The Tri-Pacer's were equipped with four light series bomb racks fitted below the belly slightly to the rear of the main wheels , these usually being loaded with 19 lb. fragmentation bombs, smoke bombs, or phosphorous grenades. The latter were to mark targets for the real big bombers involved in the bush war against the Mau Mau.

The police aircraft were the lower strata of the air war against the renegade natives. The RAF deployed heavy weapons against ground targets from the airfield at Eastleigh, Nairobi. The main strike force was provided by a detachment of half a dozen Bomber Command Avro Lincoln from No.49 Squadron, in addition fire-power was provided by a dozen armed North American Harvard trainers of No.1340 Flight. Neither type was efficient at killing the Mau Mau, the best estimates suggested that it took at least 1,000 lbs. of bombs and thousands of rounds of ammunition to kill each one claimed. Supporting the sharp end aircraft were a pair of photographic Gloster Meteor jets and a number of transports, including examples of the Vickers Valetta, Hunting Pembroke and Avro Anson and a single Sycamore HR14 helicopter. For "sky-shouting" the RAF deployed a pair of Auster AOP6 spotter aircraft fitted with the very type of Tannoy speakers that Auster had been vainly demonstrating to British police a few years earlier. Operationally the pilot of the Auster overflew the intended target area at 1,500 to 2,500 feet altitude and broadcast pre-recorded tapes of warnings in a variety of native languages, Masai, Kikuyu, Swahili etc., both before and after bombing attacks. Warning the intended targets of what was to come, exacerbated the poor kill ratio. The primary purpose of the attack aircraft was to encourage the Mau Mau to surrender with bombs and leaflets - the obsolescent piston engine Lincoln bombers in particular were there to provide a noisy demonstration of what might be expected if they did not surrender.

Following on from the Auster's, the police Tri-Pacer aircraft nipped in ahead of the RAF aircraft and marked the target, before clearing the area. It was dangerous work and by 1955 three of the KPRAW aircraft had been lost to ground fire. Police also flew with the RAF aircraft as observers on operations, at least one policeman, officer McNully detached from the Uganda Police, died as a result of a non-operational Harvard crash.

It was a long and bloody ten year campaign. From taking the oath to expel the whites in 1951 the Mau Mau campaign by 40,000 natives reputedly left around 13,000 dead by the time the British declared the State of Emergency to be at an end in November 1959.

The leading political figure in the break away from Britain emerged as Jomo Kenyatta. Sentenced to seven years imprisonment for membership of the Mau Mau in 1953, Kenyatta was released from custody in the summer of 1961 and elected Premier less than two years later. It was to be a pattern followed in the shift of power in many former African Colonies.

The world being the way it is, it goes without saying that Kenya was not the only country with British connections facing internal policing problems so quickly after the world war. In the Far East Malaya had faced problems in the wake of the Japanese invasion in the war. After the invaders were expelled there were factions in the country, identified as communists, who were hell bent on overthrowing the peacetime government. Operation Firedog, the British military operation in support of police operations officially opened in 1948. The answer evolved to counter the problem was to bring the populace together in protected colonies watched over by the police and British troops.

The RAF operated a range of aircraft in this internal security campaign, including the full range of available helicopters and light aircraft, all with extensive fighter and bomber support. ‘Firedog lasted for twelve years and therefore the range of types operated covered a large proportion of the RAF fleet of the time. Unlike the operations in Kenya, primarily operated with piston engine aircraft, Malaya had almost fully entered the jet age by its end.

The Malay police did not have their own aircraft, instead relying directly upon front line RAF support types which included the Scottish Aviation Pioneer CC1, an ultra short take-off transport that resembled a greatly enlarged version of the Auster. The Pioneer used its near helicopter flying profile to fly in and out of tiny landing strips carved out of the dense forests and perched on sheer valley sides. These locations were manned by the police and RAF ground support crews, and often situated close to the local population site. Each of these was supported almost wholly by airlift. Large items such as tractors were brought in over several lifts as a kit of parts and assembled on site.

As helicopter technology improved the Pioneer and its larger twin engine brother, the Twin Pioneer, were superceded but the general style and aims of the campaign continued. Operation Firedog was declared to have successfully run its course by 1960. Before the operation could be fully run down and British troops withdrawn from a newly formed nation of Malaysia, the whole scenario was restarted to cater for an attempt at destabilising Malaysia by President Sukarno of Indonesia. British military operations in support of the Malayan Police and troops facing up to the “Indonesian Confrontation” commenced in December 1962 and continued until 1966. After the Indonesians gave up the British were finally able to pull out and before long, in 1978, the new nation was able to form a dedicated air unit for its own Polis Diraja Malaysia

CHAPTER FIVE

Civil Defence

Faced with an uncertain post-war civil market, helicopter and aircraft manufacturers and their agents arranged exposure for their products at every opportunity. In spite of positive developments in other parts of the world, British industry remained uncertain of how they could tap an as yet non-existent police market at home. Overall the Home Office and individual police forces exuded negative attitudes toward aircraft usage, leaving the manufacturers to resort to regular displays, seemingly with little return. The favourite venues for displays were at the annual conferences attended by most senior officers and at the Ryton Police College.

Following on from the display of the Westland owned Sikorsky S-51 in 1947, the British aircraft manufacturers regularly showed off their helicopters to the floating population of students at Ryton-on-Dunsmore. The majority of these displays were private affairs which did not attract the attention of the media. The low profile maintained by these visits to Ryton suited the police but naturally did little tangible to promote the wider use of helicopters.

The types available were civil adaptations of military machines and as such they were not perhaps the most suitable for police work. Westland displayed its Sikorsky derived types and the Bristol Aircraft Co. took its Type 171 Sycamore. In time it became clear that the 171 layout was to offer the better solution for police work. In a rare display of co-operation with the aircraft industry, in 1946 the Home Office had circularised a request for a police officer of sergeant or inspector rank to volunteer to work with Bristol in displaying their evolving range of helicopters to police.

On May 15, 1953 the instructional staff at Ryton co-operated with Bristol Aircraft to undertake something special in order that the media might take greater interest. The event was, like many of its forebears, the playing out of a fictional scenario designed to portray the helicopter in a favourable light.

For the background story, a police officer on traffic control duty at a fictional meeting being held at the Silverstone, Northamptonshire, motor racing circuit was provided with a radio [personal radios were still over twenty years away]. While he was there, at 1300hrs an "armed robbery" took place at the Silverstone village sub-Post Office, the three criminals making their escape in a Standard Vanguard Estate motor car, "stolen" from a nearby car park. The alarm was to be raised at a convenient juncture by the Northamptonshire Police telling Warwickshire that the Vanguard was last seen travelling their way and towards Banbury.

In all this make believe, only the car and its occupants existed, although it was a police vehicle containing police officers acting the part. Exactly one hour after the "post office raid", at 1400hrs police resources in Warwickshire were unleashed upon the suspect Standard car and the Bristol 171 took off in pursuit. After 20 minutes the helicopter found the beige estate car in a country road. Constant reporting of its position brought about a successful, but quite predictable, interception by two ground units 15 minutes later. Needless to say the final act occurred at a scenic country cross-roads which so happened to have a convenient photographer installed.

In retrospect the chase plot lacked any real sense of authenticity, with the bandit vehicle exhibiting the classic distortions in not only remaining unchanged throughout, but hindered in the range of antics it was permitted to perform in efforts designed to throw off the helicopter. On top of this

of course, the scenario was clearly planned to culminate at the country cross-roads in front of the official photographer. It is tempting to wonder what exactly the escaping Vanguard was supposed to be doing for a whole hour, waiting for the helicopter after it suffered a technical hitch perhaps?.

This fault highlighting is of course wholly negative, and the fact remains that as a public relations exercise this demonstration was a long lasting unqualified success. Bristol received their hoped for advertising break, the overdue payback for many hours of apparently fruitless demonstrations to a cash starved police service. For years afterwards, whether it deserved it or not, that one demonstration was held up as the prime example of the direction in which police helicopter operations should proceed.

After the war the overall command of what had been Air Raid Precautions, the National Fire Service and many other groups survived as Civil Defence [CD]. The police were involved in perpetuating CD in a variety of ways, some of which bore a direct relationship to the onward development of police aviation. The public face of the police involvement in CD was the Police Mobile Column [PMC]. This was another instance where viewing in retrospect tends to leave the onlooker aghast.

The PMC was a group of about a dozen light and medium panel bodied lorries, two jeeps, the Austin Gipsy or Land-Rover SWB and a handful of motor cycles for dispatch riders. As the overall agency for both the police and CD, the Home Office operated a number of training columns upon which each of the police forces could train. The theory behind the PMC was that in time of war or civil disaster the police would put together a convoy of specially equipped vehicles to be operated by trained police officers. As in war there would be a greater number of columns than the training units would support, the vehicles were to be drawn from commerce and quickly converted for use on a PMC. When war broke out it was intended that the police with these units were to travel the country organising and giving assistance to the unfortunate survivors of the enemy attacks using the most rudimentary of equipment. It was field kitchens, tents and field toilets all round. The flaw lay in the government instructional rhetoric which stated categorically that anyone caught outside [in tents and lorries] during a nuclear explosion, or subsequent fall-out, died quickly and horribly. No one suggested that any future war would involve anything but a nuclear element. Even if the intention was to put these units together some time after the major conflagration and most of the fall-out had passed, it would be problematical to find sufficient suitable vehicles in working condition.

That was the debunk of the theory, whatever might happen in time of war, the police sent for training on these PMC's in time of peace invariably found them to be an absolute hoot. If nothing else it was a well paid holiday away from the wife and kids. Each column differed from the next, along with the level of discipline, but the Metropolitan Police examples hit the newspapers time and time again as residents local to whichever temporary camp was being occupied by a band of raucous individuals, gave vent to numerous complaints. The neighbours were placated by soothing words, but it was all really to no avail. This was important work in hand, the Defence of the Realm no less! When it was finally done away with it was always remembered an official licence to run amok in a police uniform. Never publicly denounced as an idea born out of distorted tactical thinking, the PMC's were finally withdrawn by a Labour administration as a cost-cutting exercise at the end of the 1960s.

Following similar lines as the Ryton display, Bristol's also involved the 171 helicopter in CD exercises. As an additional survival from the war years, it was still common for the larger commercial organisations to run their own section of CD within the work force. On October 10, 1953 an in-house CD exercise was held on a Bristol factory site in conjunction with the local police force undertaking training with a PMC. The Home Office took note of this and other co-operative CD ventures involving helicopters and entered into negotiations with a view to hiring them for further trials. These talks finally bore fruit in 1955.

A Bristol 171 helicopter also appeared at the 1954 Grand National at Aintree. Lancashire had continued to provide some form of regular aerial cover at the prestigious sporting event, although

this had been restricted to light aircraft. For the 1954 Grand National the Chief Constable of Lancashire County Constabulary, Colonel T E St. Johnston, had arranged the use of a Bristol 171 through the manufacturers at their Filton, Bristol, factory. The original arrangement came to naught at the last minute when the machine suffered an accident.

A week prior to the Grand National the army had arranged for one of their three 1906 Flight Bristol 171 Sycamore HC11 helicopter's to undertake a display before a military audience at North-Western Command HQ by the River Dee at Chester. The original appointment had to be cancelled at the last moment due to each of the three aircraft becoming unserviceable.

It was fortunate that an element of the lax pre-war attitudes towards aircraft loans still remained in 1954. Captain [later Major] John Spittal MBE was in charge of 1906 Flight, an RAF unit tasked with the development of the helicopter for army co-operation. It took no more than a telephone call to Bristol from Spittal at Middle Wallop to arrange for the manufacturer to send a stand in machine to Chester in order to reinstate the intended display. Unfortunately, the civil helicopter sent up to Chester by Bristol's as stand-in for the Middle Wallop machine suffered engine failure at a critical moment on arrival and was damaged in the resultant heavy landing on the parade ground. The Bristol, having suffered damage to the rotor and tail boom, was ignominiously transported back to the Filton factory by road.

Another telephone call from Bristol to Captain Spittal was again all that was required to arrange for 1906 Flight to dispatch one of their Sycamore's to fill in the promised slot at Aintree. Spittal did have to clear the unexpected venue with the Chief of the Imperial General Staff [CIGS] Sir John Harding, who was in the Liverpool area at the time - and likely to need the services of 1906 Flight for himself. Sir John agreed that his "personal" Sycamore, WT924, could be flown up north to help out. Each of the three 1706 Flight Sycamore's was technically assigned to the transportation of the CIGS and other senior army officer's in addition to the primary development task. The suggestion that any of these machines was a true "personal" assignment was loose news media terminology.

The Lancashire police observer at this time remained the familiar Gerald Lewis, DFC, but by now, in his third year of observing, he was elevated to the rank of Inspector. With only a matter of days available to arrange the not inconsiderable technical problems associated with the radio fitting and flight timings, Gerry Lewis set off south on a return journey to Middle Wallop, Hampshire, to briefly meet up with Captain Spittal and the Sycamore.

Flown by Captain's Spittal and Graham-Bell [who was in a period of conversion training to the Sycamore] the camouflaged Bristol WT924 arrived at Liverpool Airport from Middle Wallop on Friday March 26, where it was equipped with a police radio prior to test flying at the racecourse. The helicopter and crew stayed overnight on a military field at Samlesbury, east of Preston. Following a comfortable night being entertained by the police, the helicopter and crew flew to the police headquarters at Hutton to pick up Inspector Lewis at 10.15hrs before flying on to the Aintree racecourse.

The weather was a bit rough , but the only effect of this was that the intended "jolly's" for senior police officers were cancelled. An hour and a half was spent prior to the first race reporting on traffic approaching Aintree, after which the Sycamore alighted and the crew were entertained in the grandstand, taking a box next to the legendary racecourse owner Mrs. Topham. To round off a brilliant day, the ten shillings [50p] each the crew had started the day with was converted to hundreds of pounds thanks to a spell of luck with the unfortunate bookies on the course. The Lancashire Constabulary continued to use, primarily fixed wing, aircraft over Aintree for a few more years prior to taking a short break in 1957. This break was precipitated by a marked fall off in public attending the Grand National.

In Parliament the Home Secretary was questioned by a member [Mr. Langford-Holt] as to the possibility of helicopters being used for traffic observation over London in the near future. The reply was that such a development was "unlikely". Almost as the Home Secretary was answering

one line of questioning in the negative, over two hundred miles to the north the Chief Constable of the force adjoining Lancashire, Cumberland and Westmorland, J S H Gaskain, had arranged for the short term use of a Westland WS-51 Dragonfly from the Station Flight of the Royal Navy [RN] Air Station at Anthorn. Operating from the police HQ at Penrith the silver Dragonfly undertook a number of exercises, including vehicle searches which tended to re-enforce the lessons learned at the Ryton demonstration of the previous year. For Cumberland and Westmorland [now Cumbria] the arrangement with the RN was short term, the air station at Anthorn closing to operational flying shortly afterwards.

The Automobile Association [AA], the larger but younger upstart of the big two of the United Kingdom motoring rescue organisations had a fairly extensive pre-war aeronautical past. For both the AA and the Royal Automobile Club [RAC] this activity had included information services on roads and airfields and traffic spotting from a range of aircraft from two seat Moth's to the multi-seat de Havilland Dragon's of airlines like Essex based Hillman Airways. In the mid-1950s the AA decided to re-enter the world of flying with the commercial hiring of aircraft for traffic spotting duties. The first noted use was the hire of a helicopter to cover the June 1964 Lawn Tennis Championships at Wimbledon, South London. The AA invited members of the local Metropolitan Police to send observers on these flights but, unfortunately, details of this noteworthy operation have not survived in official records or in the media.

It was a period of helicopter mania in Fleet Street, almost every other newspaper in London was hiring a Westland WS-51 for a month as a publicity exercise. In flying the helicopter from venue to venue emblazoned with the sponsoring newspapers name on its sides they clearly failed to notice the AA operation.

Shortly after the AA operation at Wimbledon, in February 1955, a long time proponent of police rotary wing flight, Inspector Bruce Dix of Gerald Row police station, Metropolitan Police, submitted a lengthy paper on the possible use of helicopters by his force to Scotland Yard. Dix had been a wartime RAF pilot, his primary rotary wing experience being born out of a private visit to see the NYPD and its helicopter fleet. The reaction of senior officers to his report was dramatic. As if no-one had considered the employment of helicopters prior to the appearance of his report, manufacturers and their agents were immediately contacted and asked about their products. Many of these contacts led to trial flights and detailed reports of the impressions gained by those taken up. In an ongoing trials process, the range of helicopter types sampled included all of the types offered by British manufacturers and a number from the foreign market, including the new French Sud Alouette and Djinn models. The inspector played no part in all this feverish activity, his first reward came the following year with a Commissioners Commendation. He was not to be forgotten, and was to have a part in a number of future police operations.

Bruce Dix was not alone in his proposals relating to helicopter born police. In May 1955 the Police College Magazine [a vehicle first used by Dix in 1954 to expound his views] carried an article on the same subject. The students at the Police College produced individual thesis which were generally destroyed and lost quite quickly. However some appeared in the form of magazine articles which, although they were severely restricted in circulation, provided a channel whereby "radical" suggestions could be aired. The articles were the visible early entrants in a volume of views putting in print an idea some way from reality in the UK. Each of the writers was expounding upon a subject which remained hampered in the range of reliable information sources. Dix had managed to get to the NYPD, but very few of the others were afforded such luxuries. It was to be the blind leading the blind.

As a result of the lack of background information, some of the comments were to prove a little naive. In 1954, referring to air observation over large gatherings, Dix had stated that *" ..... the appearance of a helicopter, clearly marked POLICE would, in all probability have a steadying effect on those present.... "* Written in times where the presence of a single unarmed police constable could have a similar, sobering, effect this might be true. Unfortunately, by the time large scale employment of helicopters became a reality, the world had changed and the actual appearance of police helicopters usually had a far less dramatic effect.

In spite of many difficulties created by the wartime German occupation, France was to be the leader in the re-creation of European air police. Modern France has three separate elements involved in law enforcement, two of these have direct access to the use of aircraft. The body that does not have immediate access to aircraft is the CRS [Les Compagnies Republicaines de Securite], the security arm tasked with airport security, motorway police assistance and life-saving in addition to its high profile tasks as an anti-riot and anti-terrorist organisation. The Police Nationale [PN], a body originally known as the Surete Nationale, are civilian police under the direction of the Ministere de L'Interieur. With this government ministry they now have the use some of the aircraft operated by the Securite Civile, a fleet also tasked with roles as diverse as transportation, fire fighting and Customs Patrol.

It was the third element that led the way. Although essentially a military arm under the control of the Ministry of Defence the Gendarmerie is an efficient paramilitary force which acts as the civilian police force in peacetime and is incorporated into the military police in time of war. In their civil role they man around 10,000 posts throughout rural France. Made up of various groups, each of which fills a task within the whole, the air section is known as the Gendarmerie des Transports Aeriens, which translates as Civil Air Police.

In 1953 the Gendarmerie trialled a pair of American Hiller UH-12C helicopters. Early in February the following year a Bell 47G was acquired and after initial training was officially brought into service at a ceremony at Satory [Department des Yvelines 78] near Versailles and Paris. This single machine was initially used for traffic control and flood rescue with such success that within three years the GN unit was to grow to include a total of a dozen similar, Italian assembled, Agusta-Bell 47s, these in turn being joined, from 1957, by the French built turbine engine Sud Alouette. The initial Bell machine remained in service until September 1963.

The GN air unit served in Algeria during the violent troubles surrounding another African colonies struggle for independence from France. The height of the troubles was in the period 1955-1962, this being the period in which the fleet of Bell 47s proved themselves and expanded accordingly. As in France itself, GN duties included the keeping of civil law and order and rescue missions. Additional duties in Algeria included the evacuation of wounded personnel from the combat zone - a duty that belied the true military background of the GN. All in all the Algerian fight for independence from France was a far bloodier episode than that suffered in securing the independence of Kenya from Britain.

The pre-war leading exponents of police aviation with their hidden cache of warplanes - and of course a hidden agenda in the creation of the Luftwaffe - the Germans set about re-creating their lost police air fleet when they acquired a first helicopter for the Grenzschutzfliegergruppe, air support for the Bundesgrenzschutz [BGS], the West German Border Guard. The BGS is an organisation which, like the US Coast Guard it is virtually impossible to separate from civil law enforcement in spite of its military sounding title. The formation's reliance upon civil registered but camouflaged aircraft further confuses the distinctions.

The first helicopter, acquired in 1955, was similar to those that the French had trialled two years earlier, an Hiller UH-12B registered D-HABA. Unfortunately this remained in service only a few months before suffering terminal damage in April 1956. Full expansion of BGS air power was to await the arrival of a fleet of Sud Alouette II's a few years later.

Other West German police forces were also starting to use, and purchase, aircraft in 1955, but each of them chose the fixed wing solution for the time being. The most intensive users were the police of Niedersachsen, Hannover, they made use of a mixture of Piper, Cessna and Mooney fixed wing light aircraft, but also used some helicopters.

The Dutch State Police, then also a formation with a similar background to the French GN, also tentatively entered the field of police flying in 1955. In April 1955 an ex-military British military Auster III observation aircraft was acquired from the Dutch military and appropriately registered

PH-POL. Inexplicably this Auster was only used for ten days. Less than two months later a second military Auster was also registered PH-POL and placed in police service. This example of PH-POL was to remain in service for eight years. The police in Holland has remained an aircraft owning fixed wing operator since 1955, helicopters were added to the fleet in 1976.

Clearly the equipment to send police flying, some of it British in origin, was readily available to those who possessed the vision and the financial will to proceed. In Britain progress was held back by the will to allocate money

In spite of the limited capabilities of the available machines, the same performance problems as faced by Bristol's and manufacturers across the world, the Westland Aircraft Co. was promoting both its WS-51 and WS-55 helicopters for a wide range of duties beyond their immediate capabilities. In March 1955 Westland's were pushing the technology forward and demonstrating the WS-51 at the Surrey Fire Brigade headquarters, Reigate, before an audience that included the Home Office and a number of chief fire officers in the south eastern region. Fire Brigade use of helicopters in Britain was to lag far behind both the police and ambulance services. In other parts of the world the environment was harsher and natural fires more prevalent. Where the need was far greater, progress was spurred on. With a low level of need identified in the UK, forest fires being rare, even manufacturers saw little call for such machines and it was not until the late 1990s that a suitable type was finally offered for service.

Repeating the earlier notice of 1946, in 1955, the Home Office circularised all the forces calling for a volunteer to take up the post of Instructional Observer with the Bristol Aircraft Company. This second circular was wider ranging in that is was not to be confined to Bristol types and it also related to the introduction of the C.D. War Duties Air Observer into police duties. The position was to travel around the UK in a helicopter promoting the type and instructing senior officers in its capabilities. The task was a plum opportunity for hundreds of men recently returned to the police from the RAF with observer skills. Of the many volunteers, Chief Inspector Norman Watson DFC, of the Nottingham City Police, was chosen. Watson joined the police in 1935 and, still a constable, he volunteered for flying duties with the RAF in 1941. Commissioned in 1942 he served as a wartime member of RAF Bomber Command for two tours over Europe. Giving up his rank of Squadron Leader, after the war he returned to Nottingham quickly receiving promotion to the rank of sergeant. Trained at the C.D. Staff College at Sunningdale, Surrey, and the Technical Training School at Easingwold, Yorkshire, by 1951 he had reached the rank of inspector and was appointed Training and C.D. Staff Officer. Further promoted to the rank of chief inspector in September 1954 he had been in charge of the Traffic Department prior to his new appointment. In keeping with his Home Office position, he received promotion to the rank of superintendent.

In September 1955 the Home Office set up a contract with BEAH, an operation managed on its formation in 1947 by Reginald Brie, for the supply of helicopters in support of Civil Defence operations. This may have been the result of the earlier Bristol Aircraft CD demonstration. If it was Bristol may have been somewhat disappointed as BEAH chose to employ the rival Westland-Sikorsky WS-55 G-AOCF as the primary aircraft allocated to the scheme. Short term technical problems with the WS-55 conspired to result in the examples of the Bristol helicopter in the BEAH fleet, intended to act as an engineering back up, taking a more prominent role.

Each of the helicopters retained its standard BEA colour scheme for these CD operations. The specialised role of the WS-55 became apparent with the addition of a large CIVIL DEFENCE logo, painted in red on each of the slab sides. The different, more rounded proportions of their airframes meant that while some of the Bristol's also carried similar examples of this titling, the result was smaller and less prominent. The relative unreliability of helicopters at this time resulted in numerous occasions where the machine in use often bore no CD markings at all. As the initial use of the hired BEA helicopters was directly linked to CD police involvement with them was rare, and then only on strictly defence related exercises. The Home Office later relented on its decision to restrict police use of the BEAH fleet to military, CD, manoeuvres.

It was initially intended that police use of CD helicopters for the broadened format trials would be

restricted to the WS-55 G-AOCF. Again, events conspired to alter that. In addition to poor aircraft reliability, the main difficulty each of the police forces encountered in these trials related to poor communications. At the time there was no standard in police communications. As a rule officers on flying duties brought with them a state of the art mobile radio system, in those days a bulky "walkie-talkie" set, an item similar to those used by the army. These were often referred to as "personal radios" in reports but the description was not referring to anything of the dimensions current from the mid-1960s.

A further feature driven home to some forces during the course of this often far too brief trials, was that there were major differences between the accommodation offered to observers in the Westland and the Bristol. Clearly a number of forces familiar with the Bristol found it disconcerting to find themselves confined within the box like main cabin of the WS-55 and provided only with a small square window for observation. A number of them made their feelings known.

The Bristol was developed in Britain and the Westland was developed from a licence built Sikorsky design. In military service both types were used for similar duties, such as Air Sea Rescue [ASR] and transport at various times, but they were quite different. The Bristol was powered by a 550hp Alvis Leonides piston engine, this engine being mounted to the rear of the cabin and driving the main rotor via a short shaft which did not intrude into the passenger space. Both crew and passengers were grouped together in the same cabin forward of the engine. The total accommodation amounted to a maximum of five, although the BEAH machines are thought to have had only four. By virtue of the layout of the accommodations all the crew were able to converse with each other, albeit by shouting, if the intercom system failed. In contrast the BEAH Westland fleet were virtually unchanged copies of the Sikorsky original. Powered by a more powerful 600 hp Pratt & Witney piston engine fitted in the front of the helicopter, below the cockpit and in front of the main passenger cabin, driving the main rotor by a shaft passing between the two and creating a substantial wall between the cabins. Many commented that the Westland engine, or at least its location, was noisier than hat of the Bristol. The main cabin was far larger than that of the Bristol and resulted in seating for up to eight passengers or ten troops in addition to the two occupying the cockpit. This was primarily a passenger carrying helicopter with little of its specification inclined towards full crew observation tasks. As an military ASR type it far outlasted the Bristol because of its ability to rescue more people. As was to be shown time and again, the design may not have suited police work, but it was in no way deficient in its primary military role.

The Westland was first scheduled to operate with the Worcestershire Constabulary from May 2 - 4. The helicopter duly arrived at the Worcester Police HQ for the intended trials programme, only to find that due to a crash involving a similar type, it was grounded from midday on the first day. A military WS-55 flying from the Boscombe Down testing station had inexplicably crashed from 9,000 feet at Bartley, Hampshire on April 30. Four, the military pilot and three civilian technicians, died in the tragedy. The grounding was a short term voluntary precaution on the part of BEAH and other operators pending investigation of the circumstances.

A replacement Bristol 171, G-AMWH, was quickly obtained. Between them, the standard presentation crew of Captain Pritchard, pilot, Mr Newey, engineer, and Superintendent Watson, the HO/CD liaison officer, managed to ensure the intended programme was carried out in spite of the time lost. This combination of crew attended each of the destinations in the short police demonstration programme. A total of 66 Worcestershire police officers mainly very senior ranks, were given air experience flights, although exercises were not attempted. From Worcester the helicopter was ferried east to the BEAH engineering base at London [Heathrow] Airport to be prepared for its next task.

The traffic approaching Wembley Stadium, London for the F.A. Cup final, between Manchester City and Birmingham, on May 5 1956 was observed by Metropolitan Police officers in the BEAH Bristol helicopter. In all, five flights were used to cover the event, four each of some 20 to 40 minutes length during the drawn out build up of arriving crowds and one, lasting 85 minutes, as the crush of people left. Each of these separate flights was undertaken from the BEA base at Heathrow. The use of the helicopter at Wembley was an operation and therefore the demonstration

crew were not directly involved, although Watson did fly twice. The pilot was again Captain Pritchard, his passengers, although always three in number, varied in rank, experience and purpose. The common factor among those carried was Chief Inspector Jeffers, the designated observer. Jeffers acted as R/T operator and [self appointed] photographer for the day. The other passengers included a number of interested senior officers, the most senior of whom was Assistant Commissioner Joseph Simpson OBE, later to serve as the Commissioner.

The weather on the day was kind, visibility being 3-4 miles from a height of 1,000 feet. The conditions allowed easy observation and the taking of some good quality photographs. The photographs were primarily intended to confirm the extent of the view from the helicopter to those officers unable to fly. The crew found no difficulty in picking out the small convoy of cars carrying the Royal Party to Wembley as it made steady progress along Wembley High Road 15 minutes before the kick-off.

The ease with which the helicopter was able to keep the slow moving Royal Party in view, and the seemingly lethargic manner in which the tiny motor traffic and ant sized pedestrians arrived and departed from Wembley Stadium was something of an anti-climax for those in the helicopter.

At first R/T transmissions to the ground station, designated "Andrew", were not great in number. This gave the crew some time to come to grips with a complex code adopted for the identification of the traffic junctions and the congestion found there. One of the mistakes identified was that this attempted secrecy in the transmissions caused the message to become unclear to the recipient. As the crowd of 97,916 left the stadium in a rush the helicopter crew were swamped with sightings of traffic chaos, then being faced with the difficulty of converting the information into the code prior to transmission. The code used was designed specifically for that day's operation and, although quite simple, was wholly unfamiliar. In the Metropolitan Police, the use of R/T message coding was not in itself a everyday requirement, and the widely used American system of incident codes was, indeed remains, outside normal operational experience.

Two days passed before a BEAH helicopter, probably the Westland, arrived to undertake helicopter initiation for the senior officers of the County Borough of Southampton Police. With less than 390 officers serving a population of 197,000 the days of this police force as a separate entity were numbered. The Chief Constable, Charles Box OBE, had secured the use of the helicopter for two days, but having gained this facility he appears to have failed to make the fullest use of it. Box and 15 senior officers restricted their employment of the helicopter to providing themselves with air experience flights. Clearly there were to be a number of police forces in the scheme which, in retrospect, could be judged as failing to make the greatest possible use of the facility.

Assisted by knowledge gained during an earlier CD helicopter use, Glamorgan Constabulary plans for the use of the trial period were planned in some detail. Unfortunately the plans were to go awry.

Two days, May 10-11, were set aside for the south Wales force. The first day was almost a non-event as the wrong grade of fuel had been delivered for the Westland., delaying take-off until 1130hrs. Even with a late take-off it was still possible to undertake a limited period of liaison with locally manned PMC’s before they were scheduled to return to their depots. The situation was not improved by both of the police observers being violently air sick in the windy conditions, closely followed by the flight being curtailed by worsening weather conditions. On the second day, due to continuing bad weather conditions, no flying was undertaken at all.

Far from treating the whole affair as the unmitigated disaster it clearly was, Glamorgan were able to draw some solace from analysing the little they had achieved, even though most of it was clearly based upon the one day introductory trial earlier in the year. One thing was made quite clear, they did not like the layout of the passenger accommodation in the Westland for air observation purposes!

Failure to make the best use of the helicopter in the limited time available was not an accusation to be levelled at the next police force to play host to the CD aircraft - Nottingham City. It was home ground for Watson and undoubtedly he had more than a little input into the programme scheduled for May 14.

The first operation was in the morning at 1030hrs. Four flights, each from the grandly titled "Corporation Helicopter Landing Ground" on a site in Trent Lane, were undertaken in the Westland to report on traffic problems at various points in the city and plot them on the control room maps. In the afternoon - from 1430hrs - a pure CD scenario was enacted. The helicopter was to meet up with a PMC at Ollerton, 19 miles north of Nottingham City, between Mansfield and Retford. The task of the PMC was to aid a supposedly atom bomb stricken built up area, where traffic chaos was encountered. The column was then to be directed into "Ground Zero" [the supposed centre of the bomb explosion] by the helicopter. An hour after this duty [of sending colleagues to a nasty death?] the helicopter was employed on a hunt for "enemy parachutists" on the Race Course at Colwick Park to the east of the City. It was intended that the WS55 would ferry ground search parties and dogs to the race course. The programme went ahead as planned with each of the modest goals being met.

The cautionary note in the subsequent six page Nottingham report to the Home Office, based upon locally gleaned information, was that the operating costs of the helicopter were prohibitive. It was considered that a purchase price in the region of £90,000 and £90 ph to operate, would ensure that few, if any, forces could afford one.

Cheshire, the next user on Tuesday May 15, made no obvious attempts to undertake exercises with the helicopter. The helicopter was used only to convey two superintendents over the county on "air experience" flights, thereby effectively leaving a number of seats vacant. With so little apparent effort, it is no surprise that Cheshire, alone, failed to see any point in the employment of air observation for police purposes.

On the same day the Westland flew the short distance to Liverpool, to await use by the Liverpool City Police the following day. Although inexperienced first hand, Liverpool City were of course familiar with co-operation with the Lancashire Constabulary operations at Aintree for the Grand National. Operating from the playing fields of the police training school at Mather Avenue, all of the senior officers of the force were given air experience flights. In addition, two exercises were undertaken, one in the morning and one in the afternoon. Both of these bore a direct relation to CD activity although both also retained a peripheral application to normal duty in the communications field. Little difficulty arose with the R/T fit which, in any case, was operated at short ranges in both of the chosen city centre locations.

After a short break, when it is assumed that the helicopter returned south to Heathrow for maintenance, Captain Pritchard flew north and took one of the BEAH helicopters on to fly a total of 7½ hours with the most experienced post war UK user of aircraft in support of policing, Lancashire County Constabulary, on May 19-20. On the first of the two days, Saturday, Lancashire chose to employ the helicopter at on traffic duties covering the heavy flow of traffic towards the Lake District. Shortly after lift off there was a classic opportunity to display the ability of any aircraft in flight to report accurately the extent and cause of a traffic problem which was not apparent to ground based officers. On the A6 Preston - Lancaster road the helicopter crew were able to find at the head of a massive traffic queue a very slow moving large motor vehicle restricted to 5mph. This giant mobile road block was intercepted and put off the road by a police motor cycle patrol, thereby solving the congestion at a stroke. Quite whether the driver of the problem vehicle held a similar view at his own consequent delay was not recorded!

There was one section of the 1956 Lancashire trial that clearly displayed that its originators were unaware of a technique already used with success in the past. The helicopter was employed in searching out and identifying a particular vehicle in the traffic flow. To assist the crew the vehicle *was especially marked with a small white cross on the roof*! It serves to underline that without the comprehensive recording of earlier experimentation, numerous experiments - in this case

one undertaken by the Metropolitan Police using autogyro's in the mid-1930's - were being needlessly repeated. Again, as that earlier trial had shown, Lancashire Constabulary found that cross, or no cross, it was very easy to find the quarry in daylight.

The Saturday afternoon was spent operating the helicopter in support of the horse racing at Haydock Park, south of Wigan, taking the days flying total to five hours. Flying operations on the Sunday, resulting in the adding of a few more flight hours, were unremarkable. Throughout, the Lancashire Constabulary experienced no problems with wireless transmissions. Not many of the forces were able to make that claim.

After a further one day maintenance respite the series of trials continued with the flying of a helicopter to operate with the West Riding County Police at Doncaster on Tuesday 22. From 1030hrs, the morning was taken up with a number of 15 minute air experience flights for a total of eighteen police officers, a tiny percentage of the 2,300 then on strength. The flying was undertaken from the grounds of Rossington Hall Special School, the local additions to the crew consisting of two chief inspectors and a constable wireless operator. The dedicated police communications van, manned by another chief inspector with a further constable wireless operator, being initially situated at Doncaster Divisional Headquarters, but later they moved to a position near Doncaster Racecourse. A number of duty car patrols were involved with the exercise as needs arose, and then only if not employed upon "real" police duties.

The primary purpose for the exercise section of the trials in the afternoon flying session revolved around the use of air observation assisting traffic control of congestion in time of war. The scenario was that a nuclear attack had occurred upon Leeds at noon, and fall-out had contaminated the area to the east around Tadcaster, this in turn causing the residents around Goole, even further east on the Humber to flee to the south and west, creating traffic jams around Doncaster. Other than the communications being found wanting, as usual, the trial went well, good quality photographs were taken and the officers of West Riding thought that the concept was proven.

The next day, Bristol 171 G-AMWG, was with the 1,280 officer Staffordshire County Police, having arrived the previous evening. Ensuring that the single day of helicopter use was adequately utilised, required a great deal of pre-planning work by officers of the host police force. Surviving records on the trials suggest that far more detailed planning had been undertaken in the Chief Constables Office at Stafford than in any of the other forces affected by the 1956 trials.

The Stafford based trial, "Exercise Cop" - a code name showing a over simple brilliance that only a policeman could dream up - was operated from the grounds of the Force Training Centre, Baswich House, Stafford. As a helicopter landing pad, the choice of location was quickly found to be an error. The base station wireless equipment for "Cop" was at a site five miles away in a mobile police station at Pye Green. The Pye Green site was around 750 feet above sea level and the Baswich House helipad was at about 350 feet - with high ground in between - the result was that the two could not communicate until the helicopter was airborne.

In spite of all the forward planning difficulties abounded. In addition to the poor communications between base station and helicopter landing pad, most of the "walkie talkie" sets in use suffered problems throughout the day. Whenever the helicopter flew more than a dozen miles from base, because the mobile sets were using a similar wavelength, its signals were blotted out by those of the small Wolverhampton Borough police, a few miles to the south of Stafford.

Briefing at the Training Centre was scheduled for 0930hrs on the Wednesday morning. The first of six, originally eight, flights undertaken was lined up for 1100 and the last at 1500. Of the thirty passengers, almost exclusively drawn from the training branch, only one was a constable. In keeping with the thinking of the time, the involvement of constables in flying was rare, only a handful being directly involved in the whole 1956 series. It was to be many years before the economics of relying upon the lowest of police ranks to undertake the duty of observer was fully appreciated. Until economics intervened the authority of the rank of inspector, chief inspector or even superintendent, although it was a status unseen by those being directed, was deemed to be

a necessary aspect of the post.

In the tight schedule of Civil Defence orientated trials, involving co-operation with local patrol cars from Cannock, Headquarters, Stone, Stafford and Lichfield, the Chief Constable, Colonel G W R Hearn, went aloft in the first flight to observe the area of Churchbridge.

The following flights were of the now familiar pattern relating to sending the helicopter into the supposed area of devastation to pave the way for the PMC vehicles its motor cycles and brave - or foolhardy - crews. In spite of the obvious limitations posed by the weak signals of the "walkie-talkie" radio sets in the area of Wolverhampton, the experience was judged to be a successful introduction to the world of helicopters in support of police operations.

There was another week long break for the BEAH demonstration crew, before they again returned to fly with the Metropolitan Police, this time it was duty over the Summer Race Meeting, the Derby meeting, at Epsom. The helicopter operation was scheduled for Tuesday and Wednesday, June 5 and 6.

Captain Reid of BEAH took WS-55 G-ANUK and a variety of police observers aloft over the Epsom area on the Tuesday in a rehearsal for the following, Derby, day. Great difficulty was experienced with the inter-communication between the pilot and police observer, usually Inspector Trendall, on the flight deck and the lesser observers in the main cabin. Those in the main cabin reported that they had great difficulty in shouting messages to each other - let alone gaining contact with the pilot and front observer. In the absence of an intercom or physical contact between the cockpit and cabin, the "walkie-talkie" radio sets used for air to ground communication were also intended for use in passing messages internally. Neither the air-to-ground or the internal communication role was well served. Where the front observer was afforded an excellent view from his lofty position, the police staff in the rear were provided with five seats and could only look to the side of the flight path through relatively small windows.

The major differences in layout were underscored the following day when the Bristol 171 G-AMWH was used. Subsequent reports heaped praise upon the layout of the Bristol which, although there was no intercom, was found quieter and easier to observe from.

Both helicopters operated from the well kept grass of the golf links of the Royal Automobile Club [RAC] at Woodcote Park. The position of this club fortunately coincided with the usual position of the main police control area in the north-east of the race course. The police control point in 1956 was at Tattenham Corner, the 1921 control point lay immediately to the west and Buckles Gap, the mooring point of the 1924 balloon, was also close by the golf course. Later, in the 1970s, police helicopters alighted in the car parks in the same area. Much of this section has now been redeveloped.

Flying commenced at 1140hrs on the Tuesday, and 1028 hrs on the Wednesday. The first day was marred by wind, the second by almost non-stop rain. Because of the accommodation in the WS-55 only front observer was able to undertake operational duties. The four additional passengers carried in the main cabin were senior ranks and were quickly rotated as each of five 30 minute flights, ended. Most passengers were of superintendent rank upwards. One additional face from the past was Sidney Chamberlain. He flew for 15 minutes in the evening. As befits its limited seating, on the second day only three police flew in each of the six flights undertaken by the Bristol. The flying was restricted to times when no racing was being undertaken, one flight each day being allotted to Sergeant Carter of the photographic branch to record the events.

So ended the 1956 Home Office Civil Defence trials. The majority of the forces involved had made the best of the experience, most had also managed some flight time outside the CD spectrum. As has already been recorded, almost all forces declared a preference for the layout of the Bristol in the police role.

On July 26, 1956 another country showed that it was growing weary with the presence of Euro-

pean nations on is territory. The Egyptian President, Nasser, nationalised the Suez Canal. Although in distance the man made strip of navigable water was far removed from Europe, both Britain and France possessed deep rooted financial interests in it. These interests were such that in the October both nations acted in concert and sent troops to secure the canal for their interests. "Operation Musketeer" was a startling success for both nations and the Canal Zone of Egypt was quickly captured by land sea and air. Unfortunately, the world at large, particularly the Americans, was horrified and Britain and France were castigated and quickly brought to heel, resulting in an ignominious retreat.

Back in Britain, a major result of this military action against Egypt, in a period when neither attacking nation had its own oil fields, was that oil supplies to both were severely reduced. The effect on the CD helicopter operation was that the flying was cut back through the introduction of stringent fuel saving measures. Within weeks of the successful flying operations, no further police flying was deemed possible.

The halting of the BEAH CD operations was not the end of CD flying. In the same period as the helicopters were hired a parallel flying scheme was set up, primarily involving the employment of RAF fixed wing trainers.

Police force and fire brigade CD flying commenced in the summer of 1954. Employing a mixture of fixed wing and helicopter flights, military and civil aircraft, the primary task related to the employment of the light trainer aircraft in service with University Air Squadrons of the RAF. The scheme was to last just under forty years.

Following the thinking behind the creation of the PMC system, it was assumed that in war there would be a requirement for members of the civil emergency services to fly as War Duty Observer’s [WDO] with the Regional Air Squadron’s [RAS] of the Air Commander Home Defence Forces [ACHDF]. The UAS, which formed part of the RAS organisation, were to provide training in peacetime to familiarise those nominated as observers with their nominated war role,

There were two types of course evolved, neither of which involved a large number of hours flying for the individual observer. The Ab Initio Course allocated four hours flying, and the Refresher Course three hours fifteen minutes. With an annual maximum of forty hours allocated to each UAS for WDO training, little could be expected, but much was achieved. Most of the week each course lasted was taken up with classroom subjects.

The allocation of which UAS was to serve which police force was not as simple as it might have been. The Cambridge UAS logically served the Cambridge Constabulary and those in the nearby counties of Essex and Suffolk from their Teversham base and the London UAS was that linked with the Metropolitan Police, even though they were based in Oxfordshire. Some officers in Hampshire were also obliged to travel to Oxford rather than train with the local Southampton UAS at Hurn.

Formed as a means of attracting suitable young men to a flying career, the UAS system was created on Trenchard's command in 1919. Few formed before the war, but a significant number were located close to a variety of universities in the 1950s. Over the years, as the post-war RAF shrank, the number of individual UAS units was reduced by amalgamations. Immediately post-war the UAS units operated wartime equipment, but by the time the police started flying with them the Tiger Moth and Harvard trainers had given way to the de Havilland Canada DHC-1 Chipmunk. The fleet of Chipmunk's remained in RAF service well into the 1990s, for the UAS and the police however they were to remain only into the 1970s. From 1973 they were progressively replaced by the modern Scottish Aviation Bulldog.

Beyond the basic arrangements for WDO training, in the early years of CD training there was further activity involving the air arms of all three military services. The Army supplied CD training to a number of forces. Hampshire Police, known to be users of a BEAH CD Bristol 171 in 1957, also made extensive use of Army facilities at Middle Wallop in the period 1955 to 1961. Army air-

craft types involved included the Auster spotter and the Skeeter helicopter. It is believed that Essex Police, and probably a number of others in their own regions, were given similar facilities by the Army at Colchester Barracks.

The RAF provided the major effort in WDO training, and not just through the UAS element. The RAF station at Thorney Island, Hampshire, on the south coast of England, was a base for a number of units. At various times it was the home of an Air Navigation School for air observers and navigators, SAR helicopters and military transport. Police from a number of forces were sent to the base to receive elements of their training alongside their military counterparts. A range of larger aircraft was added to the syllabus. The additional types included the Vickers Valletta and Varsity, as well as military helicopters. Eventually Thorney Island changed it role and closed and WDO training was restricted to the UAS. Whilst operational, the week long course at Thorney Island included a minimum of five hours flight time, whereas all refresher training was undertaken with the UAS on their Chipmunk trainers.

Like the CD helicopter operations before it, the UAS scheme was nominally restricted to the military activities of CD. In a number of instances this did not prove to be the case.

Metropolitan Police files show that the variety of aircraft types used by the police in the pursuance of CD operations was far more extensive that at first appreciated. Early in 1974 the RAF, in the guise of Air Commander Home Defence Forces, Training Command, formed "No.5 Region Air Squadron" [5 RAS] as the London area squadron in aid to CD flying. This was to be the War Duties operational formation, as opposed to a purely training arrangement. It was envisaged that in time of war the RAF would call in its aircraft from their parent formations, the police and fire observers and also take control of whatever air operations the police were then undertaking. By 1974 the Metropolitan Police were flying light helicopters owned by commercial operators, and it is assumed that these would be, like all civil aircraft in time of war, requisitioned and assigned to the 5 RAS.

Squadron headquarters were at RAF Benson, Oxfordshire. Three flights were initiated, No.1 at Benson with six Bulldog trainers and a twin engine BEAGLE Bassett, No.2 at Abingdon with a further six Bulldog's and No. 3, also at Benson, equipped with helicopters. 1 & 2 Flights were to have two police and one fire officer attached, whereas 3 Flight were to be assigned three police and a single fire officer. The helicopters assigned to the latter varied, reflecting the types in service with the RAF at the time. In 1974 they were stated to be five Whirlwind, one Wessex and one Sioux based at Northolt. In 1974 a number of other aircraft were mentioned in connection with this proposal, the types included the Westland Sea King, Puma and Scout helicopters and fixed wing types such as the de Havilland Devon transport. With the passing of some of these types from service the duty would fall upon later types including the Westland Gazelle and the Boeing Chinook. The second line aircraft of the experimental stations at Farnborough and Boscombe Down were to be assigned in this role.

Actual contact with the police and fire officers intended to man this scheme was rare. In most cases co-operation was restricted to no more than engineering contacts to ensure that current police radio equipment would be compatible with that in the aircraft.

In spite of a comprehensive review of the training schedules a year earlier, in1977 it was seriously considered that the practical benefits to be derived from WDO training had run their course and that the scheme should be disbanded. This proposal was disregarded and the scheme continued for another fourteen years, until outside forces brought about its demise. The final courses were taken in the early 1990s, final closure of the scheme being brought about by the assumption that it, and CD in general, would not be needed in the wake of the collapse of Communism in Eastern Europe.

Following the initial mention of the scheme in June 1954, for most nothing further was heard until a Home Office Memorandum was issued late in 1956. This later document called for the submission of names of police and fire officers who could be trained up as CD Air Observer's for "Bomb

Reconnaissance" - the original term for the WDO. The memorandum went on to suggest that anyone selected would be considered by his chief officer as suitable for further promotion. A very juicy carrot for some.

How the CD scheme affected each individual police force is not known, but one man in Hampshire Sergeant Jack Hamblin, left some notes on his own pioneering experiences. In Hampshire training commenced on November 12-13, 1956 with a Radio Telephony Procedure Course undertaken at Hulse Hill, Southampton. Four men attended in addition to Jack, George Mansell a senior officer with the Southampton Borough Police, Mr. Ticknor, a senior Hampshire Fire Officer and two unidentified CD officers. The course was taken by an instructor from the Home Office.

A ground navigation course followed on November 21-22, this in turn being followed by an air observers flying course held from November 27-30. The course was flown from Southampton [Eastleigh] Airport in one of the BEAH Bristol 171s piloted by Captain Dibb. as can be deduced from the shortness of the course, the standard was very elementary. Fortunately a number of the trainees were able to claim some prior RAF flying experience.

A revision flying course was held from June 3-7, 1957,after which the five were considered to be competent to fly over an area devastated by an atomic bomb explosion, impassable to ground observers, and assess the extent of the devastation, entry and exit routes, depth of rubble and so on. Hamblin, ex-RAF aircrew with an DFC to his credit, was later a participant in several CD exercises of which two in particular were memorable.

On one of those rare warm and sunny morning's, he took to the air from the grass field at Middle Wallop in a military Auster AOP with flown by a young army officer pilot. Their destination was supposed to be somewhere in the north of Hampshire and they had ample time to spare. The pilot, knowing that his passenger was ex-RAF aircrew, allowed him to take the controls as they set off south, towards the seas around the Isle of Wight some 20 miles away.

They became so engrossed in the pleasures of flying low over the calm sparkling sea in the Solent that they only realised far too late that they no longer had time to make the scheduled rendezvous north of Middle Wallop. Undeterred, their observation report was read from a prepared script some miles from the actual site. Fortunately, the subterfuge passed completely unnoticed.

On another exercise Hamblin was again the observer on a flight out of Middle Wallop. In a Saunders Roe Skeeter, a small two seat helicopter with a background in the old Cierva company, his pilot was to take him to undertake an exercise in the east of Hampshire during the late afternoon. On this occasion the exercise was completed satisfactorily, and the pair were returning to the base airfield, when they encountered deteriorating weather conditions. The situation resulted in the pilot electing to fly at low level in order to identify features as an aid his map reading. Seeking assistance to aid his own disorientation, the army pilot asked the local Air Traffic Controller [ATC] where they believed he was. He was told that they were slightly off track and must look out for the approaching high ground east of Winchester. Wholly unexpectedly, a well known landmark - a tree topped hill known as St. Catherine's Hill - loomed ahead, above the Skeeter! Fortunately, the pilots reactions were instantaneous, the Skeeter avoiding a collision with the trees by inches, with the down-draught flattening the tree tops and scattering leaves as they passed.

Jack Hamblin's next CD involvement was his attendance at Bicester to fly in Chipmunk aircraft with the Oxford UAS from September 26-30, 1960. The same group of five, all comfortably accommodated in the Officers Mess, complete with personal batman, were still together for this week long course.

It promised to be a congenial week's holiday for the group without too much stress. Unfortunately, during an unofficial aerobatic session Hamblin suffered the recurrence of eardrum trouble which had bothered him during his RAF service. It led to his final withdrawal from CD flying duties after a run of four years.

On the opposite side of the world, in Australia, since the demise of the New South Wales Anson progress in police aviation had been at a virtual halt. In October 1955 Australian National Airways Pty Ltd [ANA] announced that they were expecting to receive their first helicopter, a Bristol 171, the following month. The delivery did not take place on schedule due to customs problems. In February 1956 rival Trans Australian Airlines [TAA] announced their own plans to import their first helicopter, a Hiller 12C. This announcement was followed by the government finally confirming that both of these helicopters could be imported. At the end of April the Hiller , VH-THA, was assembled and test flown at Essendon, Victoria. The ANA Bristol, VH-INO, did not arrive in Melbourne until early May.

The demonstration of the first of this helicopter duo to police took place on May 7, 1956. The TAA Hiller, the first of a fleet of six, was put through its paces in front of the police and journalists in the State of Victoria. It is uncertain whether this demonstration machine was fitted with the large pontoons typical of the TAA fleet.

Not wishing to be further overshadowed in the field of demonstrations and publicity by the Hiller of its rival, ANAs Bristol 171 was test flown at Hobart, Tasmania, four days later and quickly put to work. On May 23 the helicopter was taken to Sydney by road in order that it could be demonstrated to the police there - the primary use being seen as traffic control. In spite of its earlier history in aviation, the NSW police could not justify the capital cost of the helicopter for that type of operation.

In the mid-1950s, Bristol Aircraft had teamed up with Pye of Cambridge Ltd., television equipment manufacturers, to investigate the range of possibilities in broadcasting television pictures from a Bristol 171 helicopter to a ground station.

Twenty years after the BBC had opened up the first television station, the principal of broadcasting television pictures from the air to a ground station was by no means new. Closed down for the war, public service transmissions had resumed in the summer of 1946 and conventional outside broadcasting in October 1948. In 1950 signals were transmitted across from France, 95 miles to London, and in September 1950 the first air to ground transmission was undertaken from a fixed wing aircraft operating out of the RAF Station at North Weald, Essex. The platform for that occasion was a large twin engine freighter, the Bristol 170, and the occasion was tied in with conventional transmissions covering an air display at North Weald.

The trials at that time were held back by a lack of standardisation. Television programmes could not be exchanged with Britain’s neighbours – France used 819 lines, Germany and The Netherlands used and the BBC used 405 lines – but that disadvantage was overcome by 1953 when a converter was devised. Even then recording programmes for other more distant audiences relied upon taking films of a TV monitor screen.

BBC activities progressed slowly and encompassed a number of different aircraft as the camera carriers in transmitting public interest storylines at peak periods. The cameras used on these flights were large and heavy, but the introduction of some ingenuity managed to ensure that overall weight was held down and the picture kept up to an acceptable level. The Pye/Bristol development programme was primarily designed to miniaturise the equipment and, in the face of helicopters with limited lifting power, reduce the weight that they might have to lift. In 1956 technology continued to use the bulky glass radio valve. Fairly fragile and even at its most minimal state, inferior, far larger and heavier than the transistor that eventually superseded it.

Compared with modern miniaturised television, some elements of the 1956 system were heavy. However taken overall, at 400 lbs., the black and white transmission system displayed a weight not unlike a 1980s colour successor, the Marconi Heli-Tele. As might be expected, by the 1990s weights for vastly more capable twin flir/tv turrets had plummeted to under 100 lbs.

These trials were a curtain raiser for modern airborne installations, a number of likely groups being invited to a display of the equipment early in January 1956. The Bristol chairman stated at the

time that the two companies were offering the heli-tele system on free loan to police for use at the River Thames Boat Race and the football Cup Final if required. In the latter instance this offer had been invalidated by the subsequent offer of CD helicopters, albeit without the tv system, from the Home Office.

It was a high profile demonstration. A variety of officers from county and city police forces, a brigadier and two colonels from the War Office, and a party of five senior officers from Scotland Yard attended the first demonstration of the Pye system at Filton on January 11.

The weight of the Pye system and the limited performance of the Bristol 171 resulted in a situation similar to that experienced by the 1932 Derby Day autogyro. Little spare lift was available and the Bristol was obliged to fly with only the pilot and a single camera operator. The picture was captured upon an movable "Industrial Television Camera", weighing only 8½ lbs., transmitting in black and white to an airborne 4½ inch by 3 inch monitor. The ground based monitor was a more substantial 14 inch domestic model.

The equipment was very much a temporary fitting in the company Bristol 171 demonstrator G-AMWI. It was bolted in the rear of the cabin area utilising the existing traverse mounted stretcher points, the minimal rear seats being folded up out of the way on the rear bulkhead. The aerial for the equipment was literally lashed to the skid protecting the extremities of the rear boom thus, it was claimed, circumventing the requirement for a "proper" and costly modification programme. The tv camera operator for the January demonstration, and occupying the reversed co-pilots bucket seat on the port side, was Mr. John Downes of Pye. He had been responsible for the development of the technique used whilst flying. As the only person on board beside the pilot, Downes not only had the selection of picture to decide upon, he was also responsible for the quality of the signal transmitted to the viewing room situated in a part of the airfield flying school. Anyone aware of the unpleasant idiosyncrasies of 1950s television technology will not envy him his position.

It is hardly surprising that the quality of the air to ground transmissions varied considerably as Downes alone undertook the work of cameraman and technical back up team without the assistance of modern automatic test and balancing equipment to assist him. Once clear of the ground, with transmissions settling down from a height of between 500 and 1,000 feet, good quality pictures were seen from distances of about 8 miles. After returning to Filton the tv equipment was removed within ten minutes in order to demonstrate the rapid return to passenger configuration. The tone of the resultant police report on the demonstration could be described as showing a degree of restrained enthusiasm. It was of course a little early to judge with certainty the worth of the equipment. This trial preceded the CD flights mentioned earlier, and until then the Metropolitan Police had not undertaken an official trial in the Bristol 171, leaving some senior officers unaware of the capabilities of the airframe element of the tv trial combination. When this fact came to light, a few days later the Home Office ensured that one of the CD Bristol's was briefly made available for this task. The intention to allow the Metropolitan Police to use CD machines for sporting events later in the year was already formed.

After the CD trials, in September 1956, Bristol Aircraft and Pye again held a demonstration of their developing "heli-tele" system. Set up for September 20, a different venue was used for this further test. Parker’s Piece was a large public open space in the town centre of Cambridge close to the Pye test facilities. The Cambridge demonstrations drew attendance of observers from the police, the military [including the USSR], the Home Office and the BBC. A slight improvement in viewing conditions was hoped for by the inclusion of three 21 inch television monitors in place of the single set in a city centre hotel adjoining Parker’s Piece and a minor change in the position of the aerial on the Bristol. This aerial was now placed further forward, below the cabin and slightly to the rear of the aft passenger seats. It was still lashed in place to obviate the need for a modification programme. In anything, in spite of reduced transmission distances, the resulting demonstration showed a deterioration in the quality of transmission over the January trials.

The Pye airborne system was quietly dropped around the period the company became part of

the Dutch Phillips Group. The Pye trading name was then reduced to little more than "badge engineering". It was a Marconi-Elliott system - "Heli-Tele" - still twenty years in the future, that eventually served the initial UK police market.

CHAPTER SIX

Light aircraft hold sway

The qualities that helicopters could bring to law enforcement aviation were clearly proven. Accepting this fact, many countries across the world sought to acquire rotary wing aircraft to take them forward. Unfortunately, in Britain even if the case were proven, the money was simply not made available and a fifteen year period when all advancement was made on fixed wing aircraft commenced.

Eleven years after the end of the war the AA were still experimenting with the way forward for their own future in aviation. By 1956 they were making use of aircraft hired from Morton Air Services based at Croydon Airport. The primary type used was an Airspeed Consul light twin, G-AIAH.

In a move that was to prove important to the advancement of police aviation, the AA eventually purchased an aircraft of their own late in 1956. The chosen type was an Auster, in the days before the widespread availability of "personalised" registrations, it was appropriately registered G-APAA. In accordance with the custom of the times, in 1956 the spotter aircraft offered four seats, the pilot, an observer and one space taken up by the wireless equipment. The motoring organisation offered the spare seat to any interested parties, subject to the operational needs of the AA.

The police were within the acceptable range of those offered this generous service. The means by which the spare seat might be obtained for police use was flexible. In a typical instance, the Auster was operating on behalf of the AA over the traffic attending the Epsom Derby of 1957. Its immediate task completed, the aircraft landed close to the race course and the shortly afterwards the crew was approached by a traffic police sergeant enquiring after further information about reported traffic problems in the vicinity. Without further ado the AA crew invited the sergeant into the aircraft and all three took off to seek and observe the problem first hand. Upon his return to earth, the sergeant, Ron Potter, was able to send the necessary messages required to untangle the problem. From such small beginnings as this police use of the spare facilities offered by the AA was to grow immeasurably.

The Buckinghamshire Constabulary hired a number of fixed wing aircraft, mainly for sporting events. It was suggested that this activity was prompted by CD activities, but the reason for this suggestion has not been explained. The first of the Buckinghamshire aircraft hire operations was for traffic control duties at the Silverstone motor racing circuit on July 13, 1956, the British Grand Prix. As mentioned in relation to the 1953 Ryton helicopter trial, Silverstone lies in the County of Northamptonshire and policing of the immediate confines of the location was therefore the responsibility of that Force. Reflecting the similar arrangements between Liverpool City and Lancashire in place for controlling traffic at Aintree, the Buckinghamshire Constabulary took responsibility for approach roads situated to the south of Silverstone. In order that undue strain was not placed upon the 680 officers in the Force they chose to use an aircraft to assist them. There is no suggestion that Northamptonshire either operated their own aircraft, or gave direct financial assistance to the Buckinghamshire hiring.

The aircraft used by Buckinghamshire were hired from the Herts & Essex Aero Club at Stapleford Tawney, Essex. The type selected for the task, the de Havilland Hornet Moth was, at £4.15s

[£4.75p], then the cheapest on offer from Herts & Essex. The small two seat bi-plane, left little room to manoeuvre for the observer and pilot seated side by side in the compact cabin, but afforded a reasonable aerial platform for short duration traffic patrol flying.

On the morning of the race the Hornet Moth, G-ADOT, set off from Stapleford piloted by one of the club instructors, Jim McMahon. Jim landed at the Northampton Airport, Sywell, picked up his police observer, an unidentified Buckinghamshire Police sergeant who had been a former RAF rear gunner and set off for Silverstone. Almost as soon as the pair arrived they were called upon to help deal with a serious road accident near the circuit. With their initial input primarily restricted to identifying and calling in ground units to cope with the smash, they quickly found themselves able to provide those on the ground with a concise overview of the resultant traffic tail backs.

The aircraft returned to Sywell whilst the real business of the day - the motor race - got underway. As Jim and the sergeant rested, Fangio swept to victory and refuelled and refreshed the pair took to the skies again in the Hornet Moth and watched over the further chaos as the crowds made their way homeward. In all, one hour and forty minutes of patrol was undertaken. When Jim flew back to Stapleford the following day, the positioning flight time, spread over two days, matched exactly the total time upon which the police had undertaken their observations.

In June 1956 there were problems with British railway network. After failing to obtain the use of one of the Home Office CD helicopters to undertake the task Scotland Yard approached Hunting Air Surveys Ltd., an associate of "Aerofilms", to arrange for the taking of photographs of traffic movement. On two occasions Auster aircraft were chartered to undertake the task. There was no direct involvement of police observers with these flights, but they succeeded in providing a link between the police and the company just at a time when they needed to locate a light aircraft for hire.

On Bank holiday Monday August 6, 1956 "Aerofilms" arranged for the supply of an Auster for the use of the Metropolitan Police. For this flight, merely a trial to accommodate a small number senior officers and enable them to gauge the possibilities offered by the use of light aircraft, no police R/T was carried.

One of two passengers carried on the first of two flights was Sidney Chamberlain, undertaking just another of his last few flying appearances prior to his retirement from the police in 1961. Sidney was accompanied on the 1800 hrs take-off flight by a superintendent. The second flight, which lifted off at 1910 hrs, took up an assistant commissioner and a commander. Both flights were restricted to observation of the south western area of the Metropolis, Staines to Epsom.

The experience cost the police a total of £47, which was found to be rather expensive in comparison with prices later quoted by other operators. The main reason for this was that it had attracted a substantial arrangement fee. It was to be money well spent in the light of the fuel crisis created in the wake of the invasion of the Suez Canal Zone.

At subsequent planning meetings, chaired by Chamberlain in his role as Secretary, it was generally agreed that the Auster trial had been successful. It was thought that the best observation height was between 1200 and 1800 feet and that, with the small size of the type, the police crew should be confined to a single observer who would also operate the R/T. The Auster was nominally a 3-4 seat aircraft, but over the years this was whittled down for safety reasons. A problem quickly identified was that with its slow speed and limited fuel, a single Auster would be incapable of ranging far and was to be confined to the outer reaches of about one quarter of the half a million acres of the Metropolis. This problem was exacerbated by existing prohibitions on the single engine type flying over built up areas, the aircraft being obliged to undertake a circuitous route around the urban sprawl. Eventually, the hiring of extra aircraft was to be answer that problem. The deliberations about what to do about hiring traffic spotting aircraft were lengthy. No substantial decisions were reached for over six months.

It was 1957 before the Metropolitan Police finally decided that they would proceed with the Aus-

ter operation in preference to using helicopters. As a result applications were sought from officers who might think they were suitable to fill the role of observer in the coming year.

The offer of the flying role was not open to many. Qualifications deemed necessary were that the applicant should have some prior low level flying experience, be skilled in air-to-ground recognition and, the most stringent requirement, be one of the relatively few CD Instructors employed by the service. Officers of the rank of superintendent were to be preferred. In spite of the stated preferences, there were forty applications. Among the successful applicants was Chief Inspector Jeffers, observer on the 1956 Epsom helicopter flight, Inspector Arnott from the East End, Station Sergeant Jeffrys from Training School and Sergeant Jack Dennett, a Traffic Patrol officer from Barnes, South London. Those superintendents that were successful in their bid to fly failed to retain their flying post for very long as sense eventually prevailed and the services of the less highly paid ranks were usually preferred.

Over the next few months, even as the observers were being selected, an intensive period of planning was undertaken by the B [Traffic] Department to decide upon the form of future operations. the team was under the command of Chief Superintendent John Bidgood, one of the group of officers involved in the "Pye" tv trials the previous year, and a great athlete and champion walker. His immediate assistants were Superintendent Colin Walton and Sidney Chamberlain.

By the time the newly selected observers had arrived on the scene the general outline for Auster flying had been decided. The majority of the flying would be directed towards the overseeing of Bank Holiday traffic in and around the approaches to the Metropolis, mainly affecting the routes to and from the coastal resorts.

At that time the British people at large had yet to discover the delights of the foreign holiday. The majority of the populace remained content to take unsophisticated annual breaks and public holidays at seaside resorts only an hour or so from the major population centres. Prior to the establishment of the network of motorway's, this periodic mass migration of London area residents by motor vehicle caused great traffic jams in the suburbs. Fortunately private car ownership was not then as extensive as it became, the difference was made up by the modest dimensions of the roads. All observations by the air unit were to be transmitted directly to the Information Room at Scotland Yard, and it was their duty to arrange for a ground unit to remedy the problem. On a number of occasions that ground unit was to be a water-borne launch of Thames Division.

It became clear at the initial open conference attended by all concerned that a majority of the more senior officers had not flown, even a passengers. Even those present claiming a limited experience of flight based their experience on a mixture of short manufacturers demonstration flights and trips across the Rhuhr on a bombing mission undertaken in aircraft far larger than the Auster. Sidney Chamberlain was the only person present with extensive knowledge of police flying, but he was the first to point out that his experiences were now twenty years earlier, and probably out of date.

After the open meeting those directly involved in the practicalities of planning operational procedures set to work. The use of flying maps was quickly dismissed from the plans. The pilot would retain his airways maps for navigational purposes, but the observers were to operate exclusively from road maps. A range of standard folding road maps was obtained straight off the shelf from a retailer, Stanford's in Whitehall. With these the new team set about putting together crude flight plans aimed at taking in known "hot spots" on the road network. Initially it was envisaged that only the western approaches to London were to be covered, a task that would only need the services of a single aircraft.

Vendair [London] Ltd., based at Croydon were accepted as offering a competitive hire charge, at £5 an hour for their Auster 5 G-AKXP. Even allowing for the sub-contract premium it had attracted, this figure from Vendair was a marked improvement upon that the police had agreed with "Aerofilms" a few months earlier.

Vendair managed to reduce its overheads considerably by employing part-time qualified pilots. The part-time pilot involved in the police contract was Trevor Prytherch, a local schoolmaster during the week and often available for the holiday periods that the police chose to operate most flights. Trevor worked in conjunction with Charles Oman, a professional pilot destined to progress into airline piloting after his days with Vendair.

Two light aircraft flights were scheduled for 1957, Wednesday July 17 and Monday August 5. The July flight was for crew training and that in August was to cover traffic attending a late summer meeting of Epsom Races. The performance of the Auster allowed for the carriage of the pilot and two passengers, neither of whom was to be heavier than 14 stone [90kg], plus 45lbs [20kg] in equipment. The equipment quota was largely taken up with the weight of the trusty valve technology "walkie talkie" sets.

At the last moment the first flight was in danger of cancellation. On July 11, Vendair realised that they could not fulfil the police contract as the assigned aircraft was going to be delayed on a prior contract. Fortunately another aircraft was found with another operator.

The alternative aircraft was found with the Denham Flying Club. On schedule, the threatened flight went ahead from Denham, on the borders of West London and Buckinghamshire, in another Auster G-AGVJ. The pilot for the flight was Squadron Leader J Hamilton, a club flying instructor. The aircraft was noisier than any of the Auster's previously flown in. Speech was difficult in the cabin, but not serious enough to require the fitting of an intercom system. The high noise level did cause some difficulties with listening to the portable police radio.

As had been the case with previous Auster flights, the police crew on this flight were high in rank. An assistant commissioner and Sidney Chamberlain took the first hour long flight over the West London traffic jams from 1600hrs., a commander and a superintendent followed. Ground based communications were set up at Richmond Park in the south west and Denham in the north west. Transmission and reception of signals were good.

The Denham Auster also flew the August operation. On this occasion the operation was undertaken from Croydon, with flying commencing at 1730hrs. For this flight a number of modifications had been incorporated. The fitting of a rudimentary silencer solved the majority of the outstanding noise problems and the fitting of a modified microphone to the portable radio was also deemed successful. Again the flights were undertaken using the most senior observers. Sidney Chamberlain and Superintendent Fairbank observed on the first 40 minute flight and Superintendent's Bidgood and Gahan undertook an engine running change over to fly in the second. On this occasion the communications were reported as poor, although the aircraft radio operated impeccably, the transmitter at Scotland Yard went out of service and could not be repaired on the night.

A total of 3¾ hours flying, charged by the Denham Flying Club at £5.5.0d [£5.25p] an hour, had attracted a total bill of only £19. In comparison with the earlier experience this was more than reasonable.

It was accepted that the operation would expand, but assumed that the forthcoming bank holiday traffic operations would involve only the two Auster aircraft from Vendair and Denham. Little thought had been given to providing a similar aircraft to cover the heavy traffic flows to and from the East Coast resorts. The prime reason for this lay mainly with the preponderance of senior officers more familiar with west and south London attached to the unit. One of the new aircraft observers, Inspector Arnott from Ilford police station in the east suggested the use of a third aircraft to cover the bank holiday road traffic to senior officers. As a result of his suggestion, the inspector and Hendon Training School Sergeant Jeffrys were sent off in a police car to observe the continuing flying operations by Buckinghamshire at Silverstone.

The British Grand Prix was not held at Silverstone in 1957. The air operation using the Herts & Essex Hornet Moth continued but was directed towards lesser meetings at Silverstone. It was one of these meetings, on Saturday September 14, that attracted the visit of the Metropolitan Po-

lice officers, Arnott and Jeffrys, on their fact finding mission. The pair arrived at the Buckinghamshire Constabulary Control at the Silverstone Circuit after the two hour car journey from London, at 0800hrs.

The police operations room was equipped with two R/T circuits, one for the units serving the event, including the aircraft crew, and the normal force radio traffic, one public telephone and a field telephone system. All very rudimentary, but reasonably efficient.

After being notified that the Hornet Moth and crew had landed the pair of visitors set off to meet up with them at Sywell. The police observer on this flight was Inspector Thomas and the pilot Mr. S Brisk the Senior Assistant Flying Instructor with Herts & Essex. The two inspectors and the sergeant had met each other on a CD course, this giving rise to the mention of the Silverstone operations.

Herts & Essex were then offering four types of aircraft suitable for police use. The single engine Hornet Moth and Auster were available at an hourly charge of £5, the Miles Messenger and the twin engine Miles Gemini [G-AKHB the 1949 Lancashire Police aircraft] were both charged at £8 an hour. As a direct result of the short visit to the Buckinghamshire operation at Silverstone and Sywell, Auster J/1 G-AHHN was hired from Stapleford to undertake the projected East London section of the bank holiday traffic observation.

During the following month the Home Office agreed that the operation could spend up to £200 operating Auster's in the 1958 flying year. This figure was for flight hours and pilotage, the police element not being accounted for. An additional amount was sought to equip the three aircraft with a Pye Ranger PTC FM 8002 R/T system. Putting the use of the portable radio system behind them, an aircraft modification scheme was put in hand to put the standard car radio in the aircraft. The radio was designed to be removed to a local police station after each police flight, but the wiring for the power and the aerial remained for use on the next occasion. In the long term the repeated removal of the radio box and microphone was to have its drawbacks in relation to the reliability of the connections, but it was still a general improvement over the older radio system. The resulting modifications to the aircraft were long and drawn out, the costs eventually rising to £500 over the three aircraft. Even with the undoubted assistance rendered by Ministry of Civil Aviation exemptions and airworthiness easements, the system involved a great deal of red tape in the approval of the installation. It was just such official difficulties that led to the temporary lashing of the tv aerial to the Bristol 171 the previous year.

Flight training for the London Auster operation finally started in March 1958. With the decision to reduce the police crew to a single officer, a host of superintendent observers and operators had been considered and finally rejected in favour of the three officers who were, by virtue of their status as qualified radio operators, eventually to sweep most of the opposition away. They were Inspector Arnott, Station Sergeant Jeffrys and Sergeant Dennett. They were each to play a major part in the planning of operations and, more importantly, to fly in the Stapleford, Denham and Croydon aircraft respectively.

The Croydon aircraft, Vendair's G-AKXP flown by Charles Oman, was used on the afternoon of Tuesday March 18 to fly a number of senior police officers around south western areas of the Metropolis prior to actual traffic control operations. Three flights were undertaken, each with a different crewing combination. Sergeant Dennett flew in the first two flights, the first with Supt. Stevenson, the second with Supt. Darrell. During the third flight Oman took up Supt's Morris and Lyddon.

On each of the flights the intercom system was found to be poor. The R/T call sign assigned to the aircraft was "Whisky one", calling the special base station at Scotland Yard "M2GW", or "GW" for short. The main Information Room at Scotland Yard was "M2MP".

The following afternoon the Denham aircraft, G-AGVJ, flew its trial flights. Between 1500 and 1700hrs the aircraft flew across the NW segment of outer London, again as "Whisky one". As

with the Croydon flight, the policemen flying with the pilot, O'Collins, were regularly changed to spread the training load. In the face of small snow storms, the three "Whisky one" flights undertaken from Stapleford [Abridge] took place on the afternoon of Thursday March 20, with Inspector Arnott as radio operator.

Over the Easter bank holiday, Monday April 7, the first in which the modified R/T system was available, all three aircraft were employed in observing the heavy traffic as it made its slow progress homeward through the approaches to London. The aircraft were allocated the call-signs "Whisky one", "Whisky two" and "Whisky three" and in this instance carried two police crewmen in addition to the pilot. Whilst the Abridge aircraft enjoyed excellent communications, the other pair did not fare so well. The pair in the Denham aircraft, Chief Inspector Jeffers and Sergeant Jeffrys, suffered an almost total blackout of signals.

Although the wisdom of the decision was later questioned and changes made. it was arranged that the three aircraft would each operate for 90 minutes in the afternoon, the take-off times being staggered to provide the operation with coverage between 1530 and 1830hrs. It was hoped that the last aircraft would be available to assist with persistent traffic problems after the others alighted at the end of their flight. None of the pilots liked this idea. This should have been no surprise as the need for the three aircraft arose partly because one aircraft could not be expected to cover ore than one section of the Metropolis. Bowing to the wishes of the pilots, the 1959 flying season featured standardised times.

After an operation on May 3, air coverage of the Cup Final at Wembley Stadium by the Denham aircraft, further work on the R/T system was undertaken. The performance of the R/T was noticeably improved. These improvements were reliant upon the aircraft modifications, a fact clearly demonstrated when an unmodified Taylorcraft substituted the damaged Vendair aircraft on August 4, 1958 and displayed unacceptable R/T performance. The police crews were halved due to weight considerations from May.

The availability of spare flying time during the early flights undertaken in 1958 allowed the crews to scout intended locations and routes in the vicinity of scheduled future operations. This did have drawbacks, as the crew of G-AKXP found that Spring. Early reconnaissance of the approaches to Epsom Racecourse were highly instructive to the crew in April. Unfortunately, in June when the Derby meeting was being covered by the aircraft, they could not see a great deal of the royal convoy they were escorting as the trees lining the route had inconsiderately grown a mass of leaves in the intervening months! Aside from the problems created by foliage, escort duties highlighted a facet which was not wholly solved for many years, positive identification of the target. In this period the problem was exacerbated by the majority of motor vehicles being black. The application of a range of colours was largely restricted to coach built vehicles, high priced cars and commercial vehicles. Most official vehicles and police cars were black.

Sergeant Dennett submitted a suggestion requesting that at least one vehicle in each convoy be clearly marked with an orange spot on the roof. Years later roof markings were adopted for a range of vehicles and, probably coincidentally, a variation of the Dennett suggestion was eventually adopted as a major part of the roof marking adopted for police vehicles in UK police forces.

All three aircraft were scheduled to fly at the same time only at the time of the heavy bank holiday traffic flows. In 1958 this was Whit Monday, May 26 and August 4. On all other occasions only a single aircraft flew in support of a single special event. Throughout the operation of the Auster scheme these special event flights affected only the Denham aircraft at Wembley and the Croydon aircraft at Epsom. In 1958 the latter task created the greatest effort, the scheduling of six hours flying required the use of two pilots sharing the task. An additional task undertaken on this flight was the taking up of Chief Inspector McGregor of the City of London Police, complete with movie camera, to take footage of traffic jams for inclusion in a training film "Traffic Control".

From late May as the call-sign at Scotland Yard changed to "M2MP", or "MP" for short, new personalised R/T call signs were introduced for the three aircraft. Each of these reflected the Divi-

sional code of the nearest police station area. The aircraft took up "8J" for the Abridge based machine, "8X" for Denham and "8Z" for Croydon. The call signs incorporated the next numeral available after the ground vehicle fleets had been allocated, this factor ensured that they were not destined to be constant. In 1959, when it was discovered that more cars were to be put on the road, the number 8 was changed to 10 to make room and, for instance, "8J" became the call-sign of a Wolseley 6/110 car operating out of Waltham Abbey police station.

Occasionally an unscheduled task was added to the list for the aircraft, one such was the observation of traffic and crowds attending a Rugby match at Twickenham on December 9, 1958. Even with this extra flight by the Vendair aircraft, the years operational budget came within target. The whole year of ad-hoc operations finally cost £190.

Early in 1959, Supt. Watson was able to write a glowing report on the years operations, sure in the knowledge that most of the technical problems that had beset the early days were now overcome. He even allowed himself to insert a request for the force to purchase their own fixed wing aircraft, even if financial constraints meant that it would have to be a used Auster. His proposal further suggested that it would be flown by a police officer pilot and available at a moments notice.

Supt. Walton ventured the opinion that a helicopter would be the better option, bur precluded by high costs. He noted that the RAC had hired helicopter's from Bristol's at a typical rate of £40 an hour, or £100 daily. Even the hire of two "Air Courier" Rapide aircraft to cover the1956 August Bank Holiday traffic had set them back an amount equal to the whole of the annual police budget for 1958. Part of the cost had included painting the two aircraft temporarily in RAC livery, a feature that London police operations never ventured into prior to the 1967 helicopter operations.

The programme of fixed wing flying by the Auster's in 1959 was framed on the success of the previous year. A modest increase in scheduled operations was allowed in the list of pre-planned flying days. Typical of this was the inclusion of three Rugby matches at Twickenham and the Boat Race on the River Thames. The additional flying , added to the re-scheduling of hours over the bank holiday flights, increased costs for the year considerably. The annual budget was £448.

For operational reasons the old airline gateway to London, Croydon Airport, Surrey, was closed during 1959. As a result, the "Vendair" operations moved across to Biggin Hill, Kent. The aircraft call-sign was again changed, the sequence "M2GTG" simplified to "Golf" being allocated to the "Vendair" aircraft.

Only one of the 1959 flights was in any way notable. On March 28, Auster G-AKXP, crewed by Trevor Prytherch, Jack Dennett and Supt. Rosie flew over the University Boat Race on the River Thames. Most of the police officer's observation work was naturally confined to the areas either side of the river. The pilot's prime responsibility was to obey the bidding of London Air Traffic Control [ATC] whilst at the same time doing his utmost to follow the police mission requirements.

ATC alerted Trevor to an unidentified aircraft heading their way along the line of the river. Interception was relatively easy, and the crew waved off the advertising banner towing Tiger Moth. The matter rested there, for a while at least. Having removed the danger and recorded the basic details of the intruder the matter was all but forgotten. Old habits die hard and no one liked the idea of reporting such an event on the basis of registration mark alone. Based upon previous earthbound experience, displaying such tardiness in not obtaining the name and address of the "driver" would inevitably invoke the wrath of the station officer receiving the report.

The matter of the banner towing Tiger Moth was quickly re-evaluated when the same aircraft landed at Biggin Hill shortly after the police aircraft had returned there. Now able to interview the "driver" [pilot] at length Jack Dennett was able to fill in his report adequately. It was something a little different, but even the completeness of the notes failed to save him from the icy gaze and acid remarks of the station officer when he handed over his book. The case was successfully prosecuted in the courts, in the face of the failure of Sidney Chamberlain's efforts before the war,

this was probably the first UK air to air offence to result in a conviction.

A budget of £450 was set aside for the police Auster operations to cover the same venues during 1960. Plans to modernise the type of aircraft came to nought. The arrival of the modern looking American Champion Tri-Traveller two seat light aircraft at Biggin Hill in the May caught the eye of Chief Supt. Thompson of Scotland Yard's Research & Planning Dept. Unfortunately, the technical brief of the Champion proved somewhat misleading. It looked to be a modern type but was in fact little more than a re-worked Piper Cub with a tricycle landing gear. The cabin proved to have only a maximum of two seats set in tandem in a narrow fuselage, whereas the Auster offered the space for four seats. The fact that the Auster tended to be used as for only two occupants resulted in the availability of plenty of room for the radio and equipment As well as being considered totally unsuitable for the London police task, Thompson found that the proposed introduction of the type into the UK market was badly timed for police purposes. In the event "Vendair" operated at least one Tri-Traveller but it was never used on police operations. The layout of this class of aircraft may have been considered unsuitable for the police in London, but the basic Piper Cub saw extensive service with police across the world.

In March 1960 each of the three Auster aircraft from the commercial suppliers was booked for between five and eight dates. In 1960 "Vendair" were charging £5.10s [£5.50p] an hour, the Denham Flying Club £5.5s [£5.25p] and Herts & Essex by far the largest amount at £6.15s [£6.75p]. During the year there were a number of occasions where public service strikes in London created unexpected calls upon the Auster operations. In September 1960 trial flights were scheduled by the Biggin Hill and Denham aircraft to assess their suitability in covering normal rush hour traffic flows. Due to bad weather flight limitations affecting the Auster's the trials were not a success.

The "Vendair" aircraft was originally scheduled for a flight early in the morning of Monday September 19. Bad weather resulted in the early flight being abandoned and rescheduled for early the following Friday morning. The weather also curtailed flying on the Tuesday afternoon and Friday morning. The Denham aircraft fared little better, going unserviceable most of the week, only to run into bad flying conditions on the Friday afternoon. With the weather comprehensively halting the assessment of the viability of the scheme, no operations were undertaken before the series of strikes ceased.

The end of the Metropolitan Police Auster operations came about in a number of stages, each brought about by re-assessment of operational requirements, more stringent regulations and the withdrawal of existing easements by the Ministry of Civil Aviation. It was decided to cancel Bank Holiday flights from 1961, after it was found that traffic flows, whether good or bad, tended to follow a regular, and predictable, pattern which the air cover had proven unable to influence. Although this did not allow for variables like accidents, it was thought that putting an aircraft in the sky merely in case an accident occurred was not cost effective. This decision resulted in their being no further flying arranged with Herts & Essex from Abridge. It was to be another twenty three years before the Metropolitan Police was again in a position to operate three aircraft on its own behalf.

The fatal blow to continued police operations was the Government decision to ban flights by single engine police aircraft within six miles of Charing Cross from 1961. In addition the aircraft flying minima were reduced to clear conditions at a minimum height of 1,000 feet, the pilot to remain in constant contact with ATC if within 5 miles of London [Heathrow] or Northolt airports. In spite of the stringency of these new conditions, as late as November 1960 it was believed that the following years flying programme would continue to schedule. The Auster programme entered 1961 to be dogged by bad weather conditions and the run of bad luck that had featured in the programme from late the previous summer.

With a background of flying over the traffic attending a rugby football match fixture at Twickenham on December 6, 1960 being cancelled by bad weather, undertaking another such flight over Twickenham with an unserviceable police R/T in the January was galling for the crew. With no means of communication the 1½ hours flying over the approaches to the Mecca of rugby on Sat-

urday January 7, was all but useless.

Records of all the Auster operations are somewhat fragmented and incomplete. According to official papers when, at 1400hrs that January day, Auster G-AKXP came into land at Biggin Hill the three year old police operations were cut with the ignition. Contrary to this officially recorded version of events, it is certain that the final Auster flight actually took place later in the spring. Inspector Arthur Doughty, stationed at West End Central police station and better known for his later observer duties in police helicopters, undertook a single flight in the Biggin Hill Auster over the 1961 University Boat Race. Sergeant Jack Dennett was absent by this time, predicting the demise of air operations he had tendered his resignation and retired.

As improvements in performance were brought forward, the capabilities of helicopters were expanded to reflect this. By the latter part of the 1950s such craft remained hamstrung by inadequate power, remaining primarily available only for low weight transportation, reconnaissance and rescue. The rescue organisation was primarily established in order to ensure that there were resources available for rescuing downed military personnel on land or in the sea. Fortunately such military emergencies were rare, and the rescue units undertook the rescue of civilians in distress, primarily as a training aid. As time went on this activity grew into a key element of the domestic rescue scene, alongside the boats of the Royal National Lifeboat Institute [RNLI] service. Now taken as an integral part of the rescue services, it was not always so.

On Thursday October 3, 1957, police were called to an isolated location on the moors to the west of Harrogate, in the West Riding of Yorkshire [an area now incorporated within the North Yorkshire Police]. The West Riding Police called in the RAF to assist with the evacuation to hospital of two seriously injured men.

Members of a shooting party, the beaters, enjoying their sport on the bleak section of countryside variously identified as Pockstones Moor or Humberstone Moor, above Nidderdale and 15 miles to the west of the town of Harrogate, came across a familiar item of discarded wartime ordnance as they made their way ahead of the line of shooters. On a previous occasion members of the same party had horsed about with this same item without incident. On this occasion the ordnance exploded killing four of the twelve beaters outright and seriously injuring five.

It was getting late by the time the police were able to set up a control point at Humberstone Bank Farm and dark by the time they were able to obtain the services of the RAF in sending rescue helicopters from the RAF station at Leconfield, near Beverley, to pick up the two most seriously injured beaters. Two No.275 Squadron Bristol Sycamore helicopters, bright yellow and with large "RESCUE" signs flew in to the site and picked up the injured men, before flying them to the makeshift landing spot 15 miles away at Harrogate Hospital. They were being tended by the medical staff by 1830hrs as the less injured victims continued to make their slow way in the back of road ambulances. At this time the helicopter squadron was still "working up" at Leconfield, and was not to be declared as operationally ready until a few days after the mercy mission.

It was later learned that the section of moor where the accident had taken place was a forgotten wartime range that hid a large number of questionable items. In spite of the humanitarian aspects of the operation, and a suggestion that military mismanagement of the site caused the ordnance to still be there a dozen years after the war, the police were subsequently charged a hefty £500 for the use of the two helicopters required to undertake the rescues. This operation, and numerous others provided by the military ASR services, presaged now regular civil Emergency Medical Service [EMS] air ambulances.

In 1958 the East Riding Police, on the other side of Yorkshire, undertook a further two memorable uses of the military rescue helicopters based at RAF Leconfield. On February 25, Jack Mainprize became seriously ill with appendicitis at his home in Little Weighton, a village situated south-west of Beverley with a population of 555. Under normal circumstances the illness was easily resolved by the use of a standard ground based road ambulance, unfortunately on this occasion the whole area was cut off by a recent heavy snow fall and there was no doctor available. After

attempting to get through to the village using a snow plough and even considering resorting to horses, the police were forced to call in the RAF for help. Even as the villagers marked out a suitable landing spot, one of the Sycamore helicopters lifted off and flew the short distance from its base to the village. A landing pad "H" was marked out in a coal yard using empty coal bags pinned to the snow in a 30 foot circle. The patient was transported the short distance to the coal yard by farm tractor, and a short while afterwards he was being set down on another rudimentary landing area beside Beverley Hospital. From somewhat dire beginnings for Jack Mainprize that February day improved immeasurably and he was able to receive first class professional treatment in good time.

The second incident bringing members of the East Riding Police and the Leconfield rescue services together occurred a few months later, late in September 1958. This second incident effectively displayed an entirely different aspect of co-operation.

Stanley Mackins was a wanted man - and he knew it. Wanted by the police in the West Riding for theft, he did his best to keep well away from police in that part of Yorkshire. Unfortunately he chose to sleep overnight in a stolen Wolseley 6/80 car at Yeadon, north of Leeds and Bradford. In the early hours of September 29, he was rudely disturbed by a police patrol, he drove off from the pair at high speed and sparked off a high speed chase. Just for good measure, he loosed off a number of shots at the pursuing police before managing to lose them in the darkness of the night. This incident raised the profile of Stanley Mackins even more in police circles.

At 0915hrs the same day, fifty miles away, a constable in the coastal resort of Bridlington saw a Wolseley 6/80 VRE 529 pass him on the sea front. This was one of two numbers widely known among the police to be used by Mackins to disguise his car thefts. News of the sighting was circulated and the Wolseley again sighted shortly afterwards, ten miles inland, at Driffield. Another chase ensued at 0945hrs. Unfamiliar with his surroundings, Mackins drove the stolen car into a little used country lane which finally petered out into farmland, forcing the suspect to abandon it and set off on foot.

When the officer in the chasing police car arrived at the abandoned Wolseley he was surprised to find that there was a distraught elderly lady sitting in it. It transpired that she had unknowingly accepted a lift from Mackins in Bridlington - in those days when such actions were held to be relatively safe for women - and had subsequently been treated to witnessing the police chase first hand.

The police car driver, being alone decided to leave the lady in the car and set off in pursuit of Mackins. Hopefully other officers would find her and pick her up for questioning. Unfortunately, although the officer had done his best to transmit a clear and concise location for the position of the two cars to headquarters, even though the area was also unfamiliar to him, the resulting information had been insufficient for them to locate it and there were no back up officers on their way! Neither the control room or the other police cars could trace him.

Shortly after 1000hrs the police decided to call in a helicopter to help them trace the missing pair. A police wireless was delivered to the control tower at Leconfield so that messages could be relayed between the helicopter crew and the police patrols.

By chance an ex-Hull City police officer came across the abandoned Wolseley and the police car. Told the situation by the woman, he contacted the police control room directly using the police car radio. Having arrived at the spot in a somewhat more sedate manner he was able to provide the control room with the precise location. Ominously, he was able to add the information that according to the involuntary passenger the suspect was armed with a revolver.

Shortly afterwards the police car driver contacted the control room from the village of Skerne, two miles south of Driffield. He had followed Mackins to the village, across rough ground and the waist deep waters of a tributary of the River Hull. Once in the village the fugitive had stolen, and ridden away on, a handy bicycle.

The helicopter was already airborne and in the vicinity. Alerted to the new situation, at 1026hrs the aircrew sighted the wanted man as he abandoned the bicycle in favour of taking another car. The car journey only lasted a mile, before it was abandoned in favour of another escape on foot away from Wansford with the helicopter effortlessly hovering above him and three police running after him on foot quite close behind. Gun shots were being loosed off at the pursuers, the human and the mechanical, and in return the helicopter periodically let off a red flare over the running man to confirm his position to others on the ground still far enough away not to have yet gained visual contact. By 1040 Stan Mackins was again running beside west bank of the waters of the River Hull, this time towards Cleaves Farm. As he approached the farm buildings, he was being watched by a hidden Sergeant T H Huddlestone. At the right moment he walked out from behind the house to meet the exhausted gunman and bravely disarm him before he was able to get his wits about him. The chase had lasted one and a half hours.

There were two sequels to the helicopter chase south of Driffield. The first occurred at Leeds Assizes on December 17,1958 when Mackins received 9 years imprisonment for shooting at an officer with intent to resist arrest and a number of other charges. Five officers were commended for their courage and bravery by Mr Justice Hinchcliffe.

Further recognition for the events of that day, recognition which brought home the gravity of the dangers facing all of those involved in the chase, came in June 1959. In the Queen's Birthday Honours, Sergeant Huddlestone was awarded the George Medal, four other police officers and a civilian received the British Empire Medal.

Widespread police helicopter use remained largely confined to these one-off military co-operation exercises, and a handful involving commercial operators, few of which were diligently recorded for posterity. In March 1958 the Hampshire and Isle of Wight Police called in a Royal Navy Sikorsky S55 Whirlwind helicopter from RNAS Lee-on-Solent to assist in a search for a man suspected of shooting a farmer and his wife at Brighstone, IoW, whereas in the July the Surrey Constabulary obtained the use of a civil helicopter from the BEAH base at London [Gatwick] Airport, Crawley, Sussex, to successfully search for two men suspected of house breaking. Such uses could be expensive individually, but were cheaper overall than helicopter ownership.

With a somewhat different framework of policing requirements, the terrorist beset police in Northern Ireland were afforded close co-operation with military aviation. In the hostile environment it was prudent not to attempt to employ civil aircraft, even if such a course was politically preferable. In the late 1950s regular exercises and operations were undertaken with the Bristol Sycamore helicopters operated by No. 118 Squadron RAF at Aldergrove. As the situation in Ulster worsened in the 1960s there were to be fewer and fewer opportunities to break free of the air services provided by the military.

Industry continued to press its wares upon the Home Office and police regardless of a marked lack of success hitherto. As part of its European sales tour, in mid-May 1958 five different demonstrations of the American Hiller XROE-1 Rotorcycle were arranged by Watford based Helicopter Sales Ltd. The machine was a one man collapsible helicopter, designed and built with the US Marines in mind. Weighing 300 lbs. empty and 556 lbs. fully laden, the 55 mph cruise Rotorcycle was a minimal helicopter with 45 hp Nelson 2-stroke engine driving a two bladed main rotor. The major part of the structure was the engine and its protective casing, attached to which were a tail -boom tube with tail rotor, three landing legs and the pilot's seat and simple controls. All of the craft could be folded down small enough to fit into the rear of a light van and erected ready for flight in a matter of minutes. It was intended that the Rotorcycle would be built under licence in the UK by Saunders-Roe.

On Wednesday May 21 a guest list of around 100 naval, military, private viewers and police attended a site at Elstree to observe the American product. Elements of the police audience, which including representatives from Cheshire, Lincolnshire, The City of London and the Metropolitan forces, were sceptical from the start. Few could see how a potential police officer pilot could act

as observer as well as fly the craft safely.

It was not all of the police audience that were against the project, some praised the potential economies it appeared to offer. In comparison with two other light helicopters then on offer to the police - the British Skeeter and the French Djinn - the XROE-1 appeared to offer vertical lift at a bargain price. If it had met its claimed potential, for under £6,000 the police could have a single seat helicopter that, financially at least, compared well against the £15,000 two seat Skeeter and Djinn. In spite of the few hopeful comments, the majority of the subsequent reports to chief officers were not in the vein hoped for by the sponsors and police interest in the Hiller quickly waned. Just ten examples of the mini-copter were eventually built by Saunders-Roe for testing from 1960. Ultimately, the concept behind the Hiller was not found to be successful, it failed to gain significant military orders, fading from public interest in the US and UK.

In November 1958 the AA upgraded their flying capabilities with the purchase of a twin engine de Havilland Dragon Rapide, G-AHKV. This eight seat war surplus passenger bi-plane had previously been owned by the Inde Coope Brewery concern, who parted with it for £5,000. Like the Auster before it, the Rapide was finished in a bright yellow and black scheme which was far removed from its wartime camouflage and also brighter than its post war BEA airline scheme. For a few short weeks, until the Auster was sold off the Rapide was operated alongside its forebear.

For the AA ownership of the Rapide had is advantages. Flying 250 to 300 hours annually the hourly cost was brought down to about £4.10.0 [£4.50p], plus landing fees. Without taking into consideration the convenience of owning, and having on call, the aircraft, the hourly cost equalled that required by Herts & Essex for its single engine, two seat, Hornet Moth. There were two pilots on the AA strength, Bill Lewis, a tall slim figure sporting a handlebar moustache belying his military background and Don Whitehead, considerably shorter and also sporting a less flamboyant tuft of hair on his upper lip.

Modest costs aside, the large bi-plane greatly increased the facilities available to their own staff, the police and other bodies throughout the UK. With the new aircraft the long standing offer of spare seats could be honoured in a greater number of instances. It would be present wherever the organisation felt that its members interests were being served by the presence of the aircraft. Any local bodies were welcome to accompany the AA crew without charge. During the next thirty years the AA operation was a boon to police. In retrospect it can be seen that its ready availability at major sporting events resulted in the hindrance of the forward progress of wider aircraft use. With an aircraft offering free spare seats at the most important motor racing event of the year it created conditions in which such as the embryo Buckinghamshire operations died away.

Conversely, the availability of the AA aircraft effectively restarted operations over Aintree for the Grand National meeting. After the 1957 Grand National, aircraft use over Aintree ceased. In March 1961 the AA aircraft carried the Lancashire Police observer, Supt. A Humble, over Aintree. The availability of the facility maintained air cover at the race course for many years afterwards. The facility was to provide a continuation of the link police had forged with air cover of major events including The Derby Day racing at Epsom. There were to be few forces that did not make use of the AA aircraft.

Further from the realms of policing in Britain, although a number of British officers served there on attachment, the police in the Crown Colony of Hong Kong were extremely interested in the potential offered by helicopters and the "Tannoy" loudspeaker system.

Hong Kong, returned to mainland Chinese control in 1997, was a British Colony with a history of auxiliary aviation dating back to the 1930s. A volunteer flying force based upon the Hong Kong Flying Club supported a regular military garrison and aircraft presence until it surrendered to the Japanese in 1942. After the war, in 1949, a Hong Kong Defence Force was reconstituted with similar aims. This military arm was variously equipped with Auster's, Supermarine Spitfire's and North American Harvard's until it was decided to acquire the first helicopters in 1958. Two civil registered Westland Widgeon helicopters were ordered from Britain for delivery to the colony

specifically for use with the Hong Kong Police. As soon as they arrived the identity of the recipient was changed to that of the local government and although they operated in support of the police the pair never actually operated specifically within a police air support unit as originally envisaged.

While the Metropolitan Police busied themselves with their limited programme of fixed wing flying the police in Sussex undertook trials with a variety of helicopters. In June 1960, the Chief Constable of East Sussex Constabulary wrote to the Home Office and Scotland Yard requesting information about helicopter use and air to ground R/T. East Sussex had undertaken trials on its own behalf using an unspecified helicopter equipped with a walkie-talkie type set. The equipment had impaired reception and transmissions. In his letter the Chief Constable expressed a clear preference for helicopters over fixed wing in the ability of the type to land in open country. Relatively low hire costs associated with a new breed of small helicopter appearing commercially were now attracting renewed police interest in some areas of the country. Few details of these have survived.

The Home Office reply was fairly unhelpful, it referred the Chief Constable to the successful use of helicopters by the adjoining West Sussex force, and the continued availability of the BEAH fleet at Gatwick. The reply from Scotland Yard, constrained by all recent experience being related to the Auster flights, was confined to operational methods and some of their own communications problems and remedies arising out of experiences with their fixed wing traffic control experiences.

In the Spring and early summer of 1960 moves were set in train to hire a Tiger Moth aircraft for Hampshire Police to use over the traffic flows approaching the annual Society of British Aircraft Constructors [SBAC] showcase at Farnborough in September. A Lasham based Tiger Moth was selected for the task. Considerable police time was put into the project, only to have its use rejected by the SBAC on the grounds that the chosen type was too slow and only fitted with a simple airways R/T unsuitable for the event. It may be that, like the autogyro's of thirty years earlier, it was incapable of carrying an upgraded R/T, or there again it may be that the sight of the police using a 1930s Tiger Moth at the showcase of the British aircraft industry was just too much to bear. In later years the SBAC ensured that a modern, civil or military, aircraft was made available to the police for this purpose.

With air units springing up across the world, the continued lack of progress within the police to bring about long term air support in Britain was thrown into stark relief. This was a distorted image. Whilst it was true that the British police were not operating aircraft on a long term basis by 1960, only in the USA were civil police in a better situation. The majority of the other European police air units in Austria, Germany and Holland could invariably be linked to para-military activities, as could those in Africa, South America .and most of the Pacific Rim.

The California Highway Patrol [CHP], their helicopters later immortalised via prime time television as an element of the programme "CHiPS", first investigated the use of aviation in 1960

The CHP allocated $3,060 of its 1959-60 budget, $28,500 in each of its 1961-62 and 1962-63 budgets to conduct experiments with fixed wing aircraft in the role of traffic law-enforcement. As might be expected of a unit primarily tasked with patrol of the highway, there was little thought directed toward either crime prevention or detection or casualty evacuation in its early stages. The primary objectives sought to reduce hazardous behaviour and direct ground units to that end. Reflecting the normal field of operations of the CHP, the trials were undertaken at various locations along the length of California.

The first trial was operated over two US highways in the Barstow area, east of Los Angeles in the south of the State, between May 1 and June 30. The aircraft chosen, a Cessna 172, was dry leased from Ernest Gentry of Dagget at a cost of $8.50 an hour. Although it was to be used again the following year, this type was found to suffer from poor performance in high ambient temperatures. In this and each of the subsequent test operations the aircraft received extra markings

over the existing colour scheme. Under the wings the words HIGHWAY PATROL were painted in letters 30 inches high. The intention was that this marking would be visible to observers on the ground when flying at a mean altitude of 1,000 feet.

The second trial, centred in the northern section of California, commenced in mid-December 1961 and ran until June 30 1962. Using two different aircraft acquired from Aero Activities Inc., of Sacramento, the area in which the majority of the trial took place. The first was another Cessna 172 and the second a Piper Super Cub. Both were dry leased at an hourly cost of $6.50 - well below that of the previous trial. Although the example used was let down by noise and the layout of the cockpit, the tandem seating attracting criticism as it had done in the UK, the Super Cub was found to be the most stable of the types inspected in the early 1960s. The still unsophisticated nature of the available R/T equipment presented greater problems to the CHP than those causing concern in Europe. The potentially large expanse covered by the aircraft necessitated the carriage of two radio sets to improve flexibility of operation. The R/T was tuned to different wavelengths using individual crystals and re-tuning was achieved by the pilot switching between the two sets. A further addition was the installation of a public address system [PA].

This second phase of the trials was marred by a fatal crash on January 18, 1962. As the aircraft was landing at Madera it collided with another aircraft. The CHP officer and the two occupants of the second aircraft died.

The third, 1962-63, trial was centred in the north of the state and involved the dry lease of two Cessna 182s from Santa Rosa Aviation at an hourly charge of $7.40. The higher charge attracted by this Cessna type reflected the higher power offered by the type compared with the similar, bur under-powered, Model 172. This trial was divided into three phases operating from August 18, 1962 into 1963.

In each trial the primary purpose of the aircraft was the tailing of road traffic, mainly to detect and issue citations for road speed violations. If no ground unit was available to stop the erring motorist there were recorded instances of warnings being issued in-flight by means of the PA system. In one instance the PA system was used to call the speeding vehicle to a halt, the pilot landed nearby and issued the citation for speeding himself. There was no form of electronic speed detection, the vehicles were paced by the aircraft. It was fortunate that by their very nature the range of the speed violations were necessarily in excess of the aircraft stalling speed. Initially the method used was tested in the courts, but once accepted future cases were rarely challenged.

Although these flights were primarily directed toward traffic control and speed checks, from time to time the aircraft became involved in crime incidents and car chases and followed the suspects with mixed success.

CHAPTER SEVEN

Success dampened

In 1960 the 82nd meeting of the Central Conference of Chief Constables was held on November 23. The meeting was notified of a commercial offer to supply the Bell 47J Ranger at £18,000, plus £16 each flight hour. It was suggested that three well placed machines would be able to cover the whole of England and Wales. This further presentation of the Bell was not a new concept, not being too far removed from some of the thoughts of Lynch-Blosse in the mid-1930s. The proposal was referred to committee, often the death of many a good idea. A year later a report to the next conference admitted that no significant progress had been made on this proposal. However, the committee did review and revise the existing proposals for calling out military helicopters from their bases. The Air Ministry were still not prepared to officially make helicopters available for any routine police work, traffic and crowd control, searches for vehicles or the transportation of police and their equipment. With notable exceptions, little was to change in following years. Then, as now, they were quite prepared to assist police to meet emergencies, particularly the needs of ships, aircraft and climbers in distress, at a moments notice.

The Metropolitan Police, requiring new observers to replace retiring members of the Auster team, invited invitations from inspectors on January 24, 1961. The volunteers were to ensure that their invitations were submitted by February 1, giving at best four weeks for sorting out the lucky ones prior to the start of the first of two training courses. Through bad timing, on his return from a break the superintendent of D6 Branch deputed to weed the applications was greeted by dozens of written applications, and somewhat less than the four weeks left. Fair selection was cast to the wind. The first and most drastic selection process involved the pulling out of those applications favouring brevity in favour of the long winded. The latter were instantly consigned to the waste basket. By such technological means are air observers selected!

The 1962 Chief Constables Conference was held in the seaside resort of Torquay, Devon in the June. One of the organised events was a helicopter demonstration that was to lead to far reaching developments in the UK police use of aviation.

In the early 1960s British Executive Aircraft Services, BEAS, or "Bees" to their associates, based at Oxford Airport, Kidlington, handled the UK franchise for the diminutive American Brantly B2 series of light helicopters. The Brantly B2 represented about the minimum that could be expected of a two seat helicopter. Ignoring such as the one man Hiller design, the type was smaller than any of the existing competition. Smaller machines have been built since, but to the 1962 audience it represented the cutting edge in miniaturisation. The single 180 hp Lycoming piston engine was capable of taking it to 100mph, the normal fast cruise was 90 mph allowing a useful range of 260 miles.

The Brantly entered production in the USA in 1960 and had arrived in the UK only in January 1962. For the type to be considered for a Home office sponsored trial before the end of the year reflected its above average potential. The decision on which force was to be selected to undertake the trial lay with the Home Office Research and Planning Branch. As this was only a recently formed branch and still finding its feet it displayed an understandable tendency to be easily

swayed.

The Chief Constable of the 1,574 strong Durham Constabulary was Alec A Muir, the Chairman of the ACPO Research Committee that year. His own outstanding enthusiasm for the Brantly helicopter ensured that the force selected to operate the UK type trial was his own. Following already established selection criteria Muir chose one of his CD WDO's to undertake the task of lead observer in the helicopter experiment. Sergeant John ["Jack"] Blair, 37 years, was a veteran of the RAF with 33 bombing missions in Avro Lancaster aircraft to his credit.

With an RAF, CD and AA aircraft observer background Blair was clearly not simply plucked from oblivion, and exhibited each of the skills found preferable for observers in London, Buckinghamshire and Lancashire. The thought processes behind observer selection in the UK during the 1960s were clear cut. Unlike many other countries where conscription into military service remained, the selection processes in the UK were to be forced to change. As the years advanced, there were to be fewer war veterans to call upon and, with the removal of conscripted service, the number of police with a prior military background also plummeted. Faced with these factors the selection process was eventually obliged to ignore the military grounding which played a large part in earlier selection processes.

With all the technical arrangements completed, the yellow Brantly, registered G-ARZI, was handed over to the intended operators in a ceremony at BEAS Kidlington a few days prior to delivery to the police. In a further ceremony it was delivered to the police headquarters, situated in old wartime buildings at Aycliffe on November 6, 1962. It was a proud moment for the Durham Constabulary. Although no-one fully appreciated it at the time, and despite the fact that the unit was to be small and only available for a part of each week, they had the honour of launching the first helicopter air support unit in Britain.

The Durham helicopter unit was launched before invited guests including the chief constables of nine local police forces. In his project launching speech Durham's Chief said "I look forward to the day when the police will own several [helicopters to be] based around the country". It was a long wait.

On its ceremonial delivery flight the Brantly was flow by Dick Dorman, a Canadian pilot employed by the Darlington based "Heliconair Ltd.," run by Alistair Craig, brother of the British comedy actress Wendy Craig. As far as can be ascertained through the muddy waters of ownership and sub-leasing, at this time the helicopter remained the property of BEAS but operated by "Heliconair". In the early summer of 1963 "Heliconair" replaced it with another, later, example of the Brantly, G-ASEI which was registered in their name.

With the spiralling costs of owning and operating all types of aircraft, particularly helicopters, the presence of an operators name on any machine was to have less and less meaning. Owners, battling with the costly business of maintaining an aircraft found themselves leasing the aircraft to agents in an effort to recoup some of the high cost of ownership. A result of this practice was that the owner might not see the object of his investment for long periods, as it was progressively sub-let through an industry searching for a diminishing market.

On the first, 33 minute, operational trip undertaken by Jack Blair and Dick Dorman in front of the national press and visiting dignitaries, the only matter of note reported was a minor traffic obstruction. In spite of somewhat murky weather, some two dozen photographs were taken on the trip, primarily of notable road junctions on the A1, Great North Road. The Brantly was able to contact the control room and all cars directly rather than having to rely upon re-transmission by the HQ operators.

Whilst the flying of the Brantly was primarily a Durham operation, it was usual for extensive coverage to be given to the neighbouring North Riding of Yorkshire during the period it operated. Close co-operation was maintained with the staff of Durham Prison, Sergeant Blair being tasked with drawing up the first anti-helicopter prison break plan for that establishment. On another oc-

casion, much later in the decade, Jack was to be called in from his annual holidays to man an RAF helicopter searching for John McVicar, a notorious escapee, who had escaped [using conventional means] from Durham.

After the first day of demonstration flights, operations were generally confined to Thursday's and Friday's each week. The prime reason for this choice of days lay in the wish to spend at least part of the time escorting cash transit vehicles to and from the banks on pay days. In the 1960s the majority of the working population were still to be won over to payment by cheque or bank transfer, vast sums of money continued to be shipped by road in highly vulnerable "armoured" cash vans to enable to workers to be paid in note and coin on Thursday or Friday.

Although it was impossible to escort each of the numerous money vehicles from bank to factory, it was assumed that the random nature of the police activity would put any potential robbers off. Obligingly, no cash vehicle robbery took place in the period of the trial.

Jack Blair's entry into the limelight, and his own self esteem, was given a further boost early in 1963. It was obviously considered in some quarters that in being selected as observer to the unique Durham air support unit, he was considered to be a sergeant officer of the highest calibre. He was selected to travel down to Bramshill College in Hampshire to assist with the demonstration of both helicopters and light aircraft to the top brass from all over the country. It proved to be somewhat of a let down for a him. It turned out that the high powered "lecture" position he had been led to believe he was to perform was little more than ensuring that the various chief constables were securely strapped in to the aircraft prior to flight.

Another user of the early model Brantly helicopter was the Oxford City. Between March and September 1963 this small force under Chief Constable C G Burrows were involved with flight trials involving the carriage of police dogs in helicopters. The BEAS Brantly, G-ARYX, was equipped with a light framed box hung on its port side slightly to the rear of the passenger seat. A single Alsatian police dog was carried in the kennel, a closed box with a forward facing mesh doorway easily accessible to the police dog handler in the cabin. At the appropriate time the handler would release the door and allow the dog to leap forward whilst the Brantly was still airborne in a low hover. To facilitate this the door was removed from the passenger side of the cabin.

The City of Oxford Police had an establishment of just four dogs at this time, the first being taken on strength in 1959. After a week employed in subjecting the dogs to the noise of the helicopter, the first live flight with the kennel was flown by Peter Peckowski the Chief Flying Instructor for BEAS at Kidlington, Sunday March 3, 1963. A number of dog releases from a height of six feet were demonstrated to members of the press using two dogs, "Danko" a five year old handled by PC Peter Cottrell, and the least used "Rex" with PC Blunt. To bring the trials to the notice of a wider police audience, two days later, on Tuesday March 5, the helicopter and dogs were presented to senior police officers at Bramshill College. Little was heard about the scheme after this presentation, the Oxford news media being suddenly pre-occupied in the local aspects of the internationally famous Great Train Robbery for some weeks.

Even the £2.6M robbery of the contents of a firmly terrestrial travelling post office carriage at Cheddington, Buckinghamshire, on August 8, 1963, managed to involve itself in police aviation in a minor way. After the gang hideout was traced to the isolated Letherslade Farm on August 13, the military were contacted and it was arranged that aerial photographs of the crime scene and the hideout were taken by a police photographer.

With so few staff to call upon, in the 1960s the Buckinghamshire Constabulary combined the roles of police photographer and scenes of crime investigator within the force photography department at headquarters in Aylesbury. John Bailey, a constable in this unit, was sent to the scene and undertook to make an extensive record from ground level. The same officer was taken aloft in an Army Air Corps de Havilland DHC-2 Beaver to take aerial views. The resultant images played a major role in the subsequent trials of a few of those involved who were caught.

Interest in the Brantly dog kennel was briefly revived later in the year. The head of the police dog section, Chief Inspector George Miller and Michael Higginson, the sales manager of BEAS jointly arranged for a further dog flight on Tuesday September 17. Due to the ever present financial constraints, the concept failed to find favour, except it appears with "Danko" who showed every sign of thoroughly enjoying the experience. No further flights took place.

Serving a population estimated at 104,000 persons Oxford City was a force consisting of 185 men in 1963 and clearly helicopter operations were heavily subsidised from one quarter or another. It is quite likely that costs associated with the flights were met by BEAS.

The Durham helicopter trial last far longer than originally envisaged. It continued throughout 1963 into the early part of 1964. The flight hours were jointly financed by the Durham Constabulary and the Home Office at a rate of £17.10s.0d [£17.50p], an amount which appears quite low in today's financial climate. This amount equalled the current weekly pay rate of the average police constable, or the cost of running two patrol cars.

Such was the success of the Durham operation that in April 1964 Alistair Craig of "Heliconair" proposed a national police helicopter scheme to the Home Office. Presumably based upon the costs associated with the Brantly B2, it was designed that each interested force would be charged between £2,000 and £3,000 per annum. Ten helicopter were to be strategically based at Caernarfon, Durham, Exeter, Lincoln, Maidstone, Northampton, Norwich, Preston, Shrewsbury and Winchester, thus ensuring that no police force was to be more than 40 miles from a helicopter base. One flaw in the scheme was its intended reliance upon police officer pilots.

The Durham helicopter was the gem on the UK police aviation scene, the majority of other police forces were restricted to the use of the AA aircraft and ad-hoc hire. In mid-1963 the AA Rapide was now some two decades old, with 2,000 flights and 1,750 hours to its credit in service with the AA alone. The Rapide was put up for disposal after a decision was taken to replace it with a modern Piper PA-23 Apache 160 registered G-APZE. Sporting a similar black and yellow colour scheme to its forebears. The Apache was first used by the Berkshire Constabulary to cover the Ascot Races in June that year. The exchange of aircraft had reduced the available number of seats from eight to six. Another loss was that the newer aircraft was less nimble.

There were attempts to break the restrictive mould that UK police aviation had created for itself. Warwickshire Constabulary came close to helicopter purchase in 1963. The county Standing Joint Committee were enthusiastic about the proposal, that they might operate a helicopter jointly with a neighbouring force, but finally deferred consideration of the purchase in June 1963. The reason for the deferment was that the group had been presented with figures suggesting that it would cost £10,000 to purchase the machine and a further £5,000 each year if it was to be operated for up to 600 hours. The quoted prices were not particularly high for aviation, it was primarily an instance where the audience was wholly unfamiliar with the costs associated with the industry.

During the period of intensive activity surrounding the establishment of a light aircraft scheme using Auster's over London, helicopters and other means of flight were not forgotten. On June 15, 1957 a party from the Metropolitan Police, the military and Captain Cameron from BEAH accepted the invitation of Agusta the Italian helicopter manufacturers and Hordern & Richmond their UK sales representatives, to view the new Italian registered demonstrator of the new four seat development of the type that had been the first true police helicopter. A single example of the Agusta-Bell 47J Ranger helicopter was displayed at the BEAH base at Gatwick Airport. An Italian, licence built, version of the Bell development of the Bell 47 already in service world-wide, the 47J offered a larger cabin capable of carrying up to five, rather than the customary two or three. Capable of a similar cruising speed and range, the Bell was far larger than the Brantly and earlier Model 47s. The 240hp Lycoming piston engine powered development was not to catch the market like its smaller forebears. The Bell version had entered service with the NYPD in February 1957, as Agusta production commenced.

The non-technical police officers attending the demonstration reported upon their findings in general, but left the technical description and mechanical appraisal to a report provided by the more knowledgeable Captain Cameron. Suffice to say that the police party came away from Gatwick much impressed by their own, layman's, view of the superiority of the Ranger over the Westland and Bristol helicopter's they had hitherto been used to. Cameron was also impressed by the Ranger and BEAH ordered one, with four seats, which was delivered two years later.

Any Home Office intention of undertaking a trial with the BEAH Ranger was thwarted until 1964 by it being used in Africa until December 1963. The delayed decision of the newly formed Home Office Research and Planning Branch to hire the sole BEAH Agusta-Bell Ranger, G-APTH, for trials in March 1964 was to have unfortunate repercussions for the long standing Durham operation. As the year old helicopter experiment quietly and efficiently continued to operate from Aycliffe with little outward drama it was decided to assess the Ranger in a different style of trial.

In other countries high speed dual carriageway arterial roads, such as that represented by the pre-war German Autobahn system, were becoming increasingly common. In the UK however the concept of what were to be called motorway's was new, one of the first, the Preston By-pass section of the M6 opened in 1958, the M1 in 1959.

As soon as the first major length of the M6, Birmingham to Scotland, motorway had been created from a number of small sections joined together, in the late summer of 1963, the Chief Constable of Lancashire, Colonel T E St. Johnston CBE advocated the use of a helicopter in an article carried by the *Manchester Guardian* newspaper. When the decision was taken to employ just such a trial with the red BEAH Ranger on motorway traffic patrol work, the road was a bare 86 miles in length. It then extended between Gayley in Staffordshire in the south and passed through the territory policed by three different police forces to Broughton, near Preston in the north. The three forces were Staffordshire, Cheshire and Lancashire. The helicopter operation was but a small part of a tri-force Motorway Traffic Patrol experiment. The trial was to be led by Chief Superintendent John Wren MBE, of the Lancashire Constabulary.

Seeing the operation as a short term diversion from important day to day duties, Wren originally resisted his posting from traffic to the helicopter trial. His resistance was overcome by a forceful suggestion that it was intended to be a long term arrangement. Operating with mixed force crews, for a short period the unit investigated methods of policing the new type of road. The vehicle fleet consisted of Ford Zephyr's from Lancashire, Jaguar 3.4s from Staffordshire and Land Rover's and Humber Super Snipe's from Cheshire. In addition to the cars each force supplied motor-cycles. To assist the helicopter a simple form of roof marking was provided on the mixed array of police cars. There were few enough of them directly involved in the trial to require only the need of large numerals.

The trial did not get off to a promising start. Partly due to work required after its return from the Nigerian contract, the Ranger was not available for the official launch ceremony held at Knutsford, Cheshire, on March 9, 1964. In its stead, BEAH supplied an older two seat Bell 47B3, one of two supplied to the airline in 1947. Although extensively refurbished over the years, this craft was decidedly ancient and was undoubtedly the oldest civil helicopter then flying in the UK. The type was similar in layout to the model supplied to the NYPD post-war. Although unsuitable for the envisaged M6 task it did, as a temporary measure, "fly the flag" and allow a contractual breathing space whilst BEAH engineers set to the final details of equipping the Ranger for police duties.

Much delayed in its own arrival, the Bell 47B3 did not have a police radio fitted, but for the opening programme Sergeant Jack Smith, the lead observer with the Lancashire Constabulary was sent up on a short familiarisation flight - his first in a helicopter. Jack was familiar with WDO flying in Chipmunk aircraft and flights in AA aircraft over Aintree and Blackpool. As experienced by most first time passenger's, the flight in the helicopter was a revelation to Jack and he quickly warmed to the unaccustomed visibility and versatility the goldfish bowl cockpit of the Bell offered. The Ranger arrived, available for police use, the following day.

In order to retain a reasonable operational sortie time of around two hours, the addition of the police role equipment, including standard binoculars, cine camera, maps, first aid kit and traffic cones, had reduced the normal crew of the Ranger to two. All equipment was straight off the storeman's shelf, there being no aeronautical items such as stabilised binoculars or flying suits. Two hour patrols using a single police observer, including offence and incident reporting, were flown at a minimum height of 200 feet every day possible. Flying low, the helicopter tended to be clearly visible to the traffic using the road and resulted in an immaculate behaviour by the majority.

The Home Office wireless fitted covered the three channels then used by Cheshire, Lancashire and Staffordshire, but suffered poor reception in the first week. Re-siting the aerial and improvements to the head-set and microphone equipment solved many of the problems. Whilst not as sophisticated as modern systems, an attempt was made to provide the crew with reception of a number of transmissions simultaneously. All police transmissions were received in the observers left ear and intercom input from the pilot, ATC and his own throat mike was carried to the right. Far cruder than the modern system which overlays all three sources to both ears, it worked reasonably well. The observers were instructed to log and report upon everything untoward seen on the motorway - the resultant radio traffic often overloading the usually quiet police radio systems of all three counties. Modern police helicopters are allocated special call-signs for ATC purposes, these highlighting potential special needs required by the helicopter. On this occasion, long before such needs were recognised by the air traffic authorities, the police machine was allocated no special call-sign, the standard "Tango Hotel" derived from the Ranger's registration being retained.

Aside from the initial non-appearance of the Ranger at Knutsford, from the outset of the experiment difficulties were experienced in a range of operating areas. Difficulties were experienced in obtaining a landing area in the vicinity of the selected Command Post. One close by had to be given up after it was found to suffer from adverse winds and had a talent for upsetting the neighbours with its excessive noise. A new site was found 12 miles away in a Cheshire County Council Garage in Sandbach. A by product of this enforced move was that the helicopter lost contact with the Command Post when it was on the ground.

Some landings were undertaken close to incidents on the roads but no opportunity arose to undertake casualty evacuation. In addition to a number of traffic related incidents taking place in areas adjoining the M6, searches for missing persons, motor racing at Aintree, horse racing at Uttoxeter, and an agricultural show in Staffordshire, were covered by the helicopter. On the first day, and upon numerous further occasions, rather than call up extra ground assistance the helicopter landed beside the motorway to enable the crewman to get out and assist ground police units, often providing sheer physical exertion in the clearing of the roadway. With the benefit of hindsight it appears a strange and unorthodox activity for the sole police observer in a very expensive resource to undertake in the circumstances. They were breaking new ground, and for the time being anything was acceptable behaviour.

The site move failed to ensure that complaints about the helicopter ceased. Vociferous members of the farming community claimed that the low flying helicopter was upsetting livestock. In contradiction of those assertions, the crews reported that they saw few instances of animals taking the slightest bit of notice of the helicopter. Only when the machine sought to land in fields already occupied by cattle and horses did any sign of disturbance make itself apparent. On these occasions the odd animal, almost always a horse, might be observed to break away from the group and gallop around the field.

Aside from giving due consideration to livestock care was also taken when landing in most rural locations. When setting down, growing crops were usually avoided, even though this occasionally resulted in the observer hover de-planing on to often sticky ploughed fields. Not all farmers were against the police flying activities, indeed on one occasion a farmer was particularly thankful that the crew found a heifer stranded in deep mud by a pond and were able to land in his

farmyard to tell him personally about the plight of the beast.

Unfortunately, and very much confirming suspicions concerning its behaviour on the first day of the trial, the BEAH Ranger was not reliable as might have been expected. Frequent mechanical failures, including the replacement of its engine on one occasion, resulted in numerous operations being curtailed. Disconcerting to police staff, the problems were assumed to be endemic to helicopters in general. The primary problem was logistics. This was only a short term arrangement and therefore the single mechanic assigned to the Bell had to call upon back up staff from the BEAH base at Gatwick. The rarity of the type resulted in occasions whereby spares had to be obtained directly from the manufacturers in Italy and a substitute helicopter brought in. During the engine change, in April, the replacement helicopter was one of the large 7 seat WS-55s still operated by BEAH.

As the police crews flew around in the opulent splendour of the carpet lined executive WS-55 the dormant Ranger was also being fitted with public address -"skyshout" - equipment. Upon its return to service the use of this additional facility in assisting the moving of obstructive vehicles by the voice from the sky was found to be impressive.

In Parliament on April 17, 1964 the cost of the M6 operation, hiring of the BEAH Bell and its pilots, Captain's Graham, Perkis and Cameron, was given as £2,457, an astronomical, and uncomfortable, annual rate of £34,000. Fortunately this rate of spending was moderated before the end of the trial and resulted in a £6,100 bill being presented to the Home Office for the three months use.

The M6 operation was a wide ranging trial and there were a variety of changes affecting the mixed crew style of operation of the ground based vehicles. Contrary to the assertions that the air element of the M6 operation was to be long term, on June 26, after the completion of some 300 hours flying, the Ranger was withdrawn from police patrol use. The remainder of the combined force ground operation continued until July 16, at which date it dismantled and continued in a different manner. In the new arrangement sections of the road, between entry and exit junctions, were allotted to specific police forces almost regardless of county boundaries. As the police forces allocated to undertake motorway patrol work were acting on the behalf of the Home Office, boundary overlapping was allowed. A similar system operates on motorways today.

In retrospect the whole concept could be held as a defective from the start, but this would be an unfair criticism of those officers groping in the dark attempting to find a niche for promoting police use of helicopters.

Unlike the USA, protracted traffic patrol trials in the UK have only tended to confirm that the use of aircraft, particularly helicopters, with a primary aim of traffic patrol is uneconomic. Twenty five years after the M6 trial many newly forming air units in the UK continued to experiment with undertaking speed check prosecutions by helicopter. It was quickly found that the level of court fines levied in response to these operations failed to make economic sense of tying up a helicopter in these specific duties. Even in the USA this opinion is largely endorsed by the use of economical light aircraft in such duties. Naturally, this does not stop the diversion of police resources into specific areas of traffic control on demand.

The exact cause for the sudden demise of the M6 helicopter operation remains unclear and, understandably, whilst never hidden was not deliberately made public. The high cost of the M6 Motorway operation resulted in the annual budget retaining sufficient funds for other Home Office projects in 1964. Among those affected was the continuing Durham helicopter trial.

Throughout the police hierarchy there have long been those that urged a move towards ever larger police forces. The multi-force M6 trial was an element of this effort. Although the single force Durham experiment was covering sections of surrounding police forces on a day to day basis, economically flying a range of law enforcement operations, from traffic to crime patrols, it was not enough. In the eyes of those constantly seeking their own betterment, the operation had become

the epitome of the British policeman, slow steady and plodding, even if displaying annoying signs of relative efficiency. Although it was quietly proving the case for the use of police helicopters, there was no longer any personal kudos to be gained from such an operation, something more startling was to be tried and that had been the M6.

The Home Office sent the message to Muir that due to a shortfall in their funds all future flying operations were to be undertaken at full cost to the ratepayers of Durham. Faced with this unexpected withdrawal of central funding at short notice, and insufficient time to raise further funding from his local Watch Committee, Muir was forced to cancel further operations with the Brantly. The amount required for each hour of flight, £17.50, appears negligible today after many years of inflation, but that is only a part of the story, with a fair number of hours being funded weekly. It is sufficient to state that such funds as had been spent supporting the Ranger for three months might have easily have ensured the further operation of the Brantly for a further year or more.

Jack Blair was given the bad news personally in the corridor at Aycliffe by Alec Muir. Jack recalls that his Chief Constable was deeply upset as he broke the news to him. With the demise of the Durham helicopter trial, Jack and his colleagues returned to flying as WDO’s in the separately funded CD Chipmunk's of the Newcastle UAS from Ouston and the occasional use of the AA aircraft.

The demise if the Durham helicopter trial did not go un-noticed in Fleet Street and industry. Some sections of the aeronautical and security press protested vehemently about the demise of the scheme, but it was all to no avail. The decision had been taken

There were to be some further police helicopter flights in the county of Durham shortly after this period - including one specifically designed to impress the Home Secretary, Roy Jenkins, when he laid the stone for the new Durham Constabulary HQ on January 16, 1967. Roy Jenkins arrived to perform the task on a short flight from Teesside Airport in a four seat Brantly 305, G-ASXF, accompanied by a smaller B2. Prior to landing he was given an airborne viewpoint of an "cops and robbers" set piece involving two security vehicles bearing appropriate roof markings. The helicopters landed in the County Hall complex and the Home Secretary was taken by motorcade to perform the ceremony at the new police site a short distance away. This demonstration was part of Chief Constable Muir's effort to promote a form of "airborne bank guard patrol" which had featured heavily in the earlier trial. The move failed to win government sponsorship.

In later years many whispers of misinformation grew up about the cancelled Durham trial, a number appeared in print. Much of this information implied that that it was Muir himself that had decided that helicopters were of no use to him. None ever explained why a man holding such a high post in the police should have taken sixteen months to have made that momentous decision, and then having chosen to cancel it at just the time the Home Office ran out of money. This, added to his subsequent attempts to start up another similar operation less than three years later, cannot by reconciled with the substance of the rumours. The whole of the Durham episode represented success and the M6 trial, reported upon in a document quietly published two years later, a deep embarrassment to some in the Home Office at the time.

As the Durham trial was done to death the seeds of another police aviation scheme in the UK were already being sown. This was to be something entirely different.

The decade of the "Swinging Sixties" in Britain is remembered for a variety of reasons. As most prefer to remember the better aspects, to the forefront of memories are the fashionable aspects, Carnaby Street, Mary Quant and the like. Less well recalled are the public disturbances that grew out of the changes in attitude that some of these fashions provoked. The major public holiday weekends in early 1964 were marked by frightening gang warfare between youthful factions styling themselves as the "Mods" and the "Rockers". The groups were respectively those who preferred the new fashions and rode around on imported Italian scooter bikes and the "traditionalist" group generally clad in leathers and preferring to transport themselves astride large motor cycles.

Fights were likely to break out anywhere and anytime. In the event most occurred on the sea fronts and beaches of popular resorts on the south and east coasts. Quickly the government of the day was promising swift and steely action to put down the frightening scenes that were all too often filling tv news screens. Having made the promise the politicians then passed the problem straight over to the police to provide the solution. Before long the police had devised a means whereby the political rhetoric could be matched by action.

As the largest available pool of manpower, it was envisaged that the Metropolitan Police would undertake to assist the police at the coastal resorts in their time of need. For the August Bank Holiday 1964, the last opportunity of the summer season, the Metropolitan Police placed a large number of officers on stand-by at RAF Northolt, north-east of London. Drawn from most of the London divisions, there were hundreds of officers of all ranks squeezed together in far from comfortable conditions. One of the organisers of this arrangement was Bruce Dix, now holding the rank of Superintendent and serving with A2(2) Department at Scotland Yard - the "Special Events" organisers.

For most of the officers on duty at Northolt the time was wasted. The depths of boredom were staved off by a constant diet of card playing, smoking hand rolled cigarettes and downing an endless succession of cups of tea and coffee. On the morning of Sunday August 2 trouble broke out in the coastal resort of Hastings and quickly indicated that the small 133 officer Hastings Borough Police was going to be overwhelmed. As the force received immediate help from the neighbouring East Sussex force 69 officers from the group at Northolt set off to assist. Led by Chief Inspector David "Crazy Horse" Powiss the group embarked in a waiting Armstrong-Whitworth Argosy C1 military transport, took off and headed south the 80 miles to the south coast. The Argosy landed at Lydd Airport, Kent, and the police re-enforcement's were bussed the dozen miles to the sea-front at Hastings.

It was an unfortunate glitch in the plans that resulted in the flight taking only 40 minutes to arrive in Lydd but the ensuing short coach journey taking two hours. The local police were doing their best to keep the trouble-makers out of the town, but this unfortunately created traffic jams which slowed the arrival of the reinforcements. Highly amused the Metropolitan reinforcements paraded at the large WVS building in Hastings to be informed by a heavily moustached chief inspector of the Hastings Borough force that there were no facilities for such a number of men to be fed and watered. He suggested that they descend upon the local restaurants in the town, a novel suggestion that proved extremely popular with the visitors and the beleaguered locals.

In the mid-sixties there was little widespread tactical training in the police, equally the “Mods” and “Rockers” were very unsophisticated groups of troublemakers. The visiting police were sent to patrol the beach in groups of three and left to devise their own solutions to the problem. The arrival of this relatively small group of officers tipped the balance in favour of the police and the resultant street battles were short and crushing, with not a few scooters and motor bikes suffering as a result. Among the inevitable crop of reported injuries there was just one of the London policemen. By the end of the afternoon it was all over and the troublemakers left the town. A further flight of policemen to Hastings had been intended after the single Argosy returned to Northolt, that second flight was called off at the last moment when trouble in the town was seen to evaporate. The original officers returned to Northolt by Argosy, their return being so early that they were able to take in a slight diversion to undertake a sight seeing tour of parts of London prior to landing.

A further flight took place on the Bank Holiday Monday. The period in Hastings was somewhat longer and it was dark by the time the police officers were released. Apparently influenced by the darkness the return flight in the Argosy aircraft was not available and on this occasion the officers, a different group, were forced to return to London in roofless double deck buses normally used for sight seeing trips. The return trip took five hours, an indication of the time it might have taken for any road bound assistance if the RAF had not made an aircraft available. Although all of them had been on duty for over 20 hours by the time they returned to their homes in the early

hours of the Tuesday, there were few complaints from the police. It was after all a Bank Holiday, double pay prevailed !!

The following year a similar effort was mounted for the summer of 1965. After the undoubted success of the Hastings operation the idea was renewed under the cover name "Operation Bradshaw" It is presumed that the name was chosen as an topical allusion to the intention of cleansing the seaside beaches of the seasonal problems, Mrs. Bradshaw was a secretive figure featuring in "Surf" brand washing powder adverts appearing on British tv at that time. Unfortunately it is so long ago that no-one directly involved can really recall either the code name or the reason behind its choice. The connection is therefore informed conjecture.

Bruce Dix again approached the RAF intent upon repeating the travel arrangements of 1964. On this occasion the air officer commanding [AOC] declined to make a Transport Command aircraft available, indicating that he thought the carriage of police reserves to riot situations was no longer considered a suitable task for the RAF. In addition he declared that his aircrew wished to enjoy the chance of a bank holiday leave themselves! Having faced this unexpected blank wall, the police approached BEAH and hired a helicopter instead. The use of the helicopter had been his natural inclination in 1964, but an attitude of ready assistance by the RAF at that time had deflected him from that intention. The type selected for the purpose was one of the Sikorsky S61N recently delivered to BEAH, effectively the police were having access to a 24 seat rotary wing airliner that could overcome the Argosy's inability to deliver the officers right to the scene of the problem.

A great deal of planning went into the 1965 measures against potential seaside trouble. Each of the coastal trouble spots in the south-east, stretching from Sherringham in Norfolk to Bournemouth, Hampshire, was noted and flight times calculated to each of them. Some 35 suitable landing sites were identified and surveyed. These locations were invariably flat clear tennis courts and playing fields, but each had to be assessed for flying hazards nearby long before the exercise was set up. Representative flight times quoted for the S61N were:

Imber Court to Brighton	18 minutes
Imber Court to Worthing	20 minutes
Imber Court to Southend	21 minutes
Imber Court to Hastings	25 minutes
Imber Court to Margate	34 minutes
Imber Court to Felixstowe	37 minutes

A liaison link up was forged between the police and the Ministry of Aviation and the two major London airports, Heathrow and Gatwick for air traffic clearances. To fully assess the suitability of the chosen helicopter type Superintendent Dix took a trial flight in one of the S61Ns in May 1965.

When finalised it was agreed that a single helicopter would remain at its BEAH base at a standing charge cost of £190 per day, for each of the three days the first operation was intended to encompass. Alternatively the police would be charged £200 for each flight hour, with a minimum of two hours should flying take place. The use of two helicopters would have been preferable (BEAH had four in service by that time) but on this occasion the cost cutting measure did not lead to any problems.

Set for the weekend of June 5, 6 and 7, 150 Metropolitan Police officers were held for nine hours a day at the No.1 District Police Sports and Social Club, Imber Court, Thames Ditton, Surrey. The Sikorsky was held in readiness at the nearby BEAH base at Gatwick Airport. With police better prepared in the areas likely to be affected, no incidents serious enough to require the calling in of the reserves took place at any of the coastal resorts during the holiday period. Eventually the need for setting up such a reserve force waned as the "fad" for beach battles lost its glamour for that particular generation. As far as can be ascertained, such air reserves were not contemplated again. With the advent of improved high speed roads, dual-carriageways and motorway's, less and less need arose for swift air travel over such relatively short distances.

The major proportion of the cost of this operation fell upon the Home Office police budget, now revitalised in a new financial year after the embarrassment surrounding the events of 1964. Later in June 1965 a report considering the case for the creation of an experimental police helicopter unit was circulated within Scotland Yard. The outline of this short document displayed a strong inclination towards commercial proposals put forward for the Bell 47J Ranger in 1960. Although apparently a plagiarism, with some expansion in aims, it is worth noting the contents of the document for the roles that were then envisaged for helicopter use.

On a national basis, three, or even four, helicopters were visualised as serving a single police district, or region, up to the size of the Home Counties. Effectively this was the first recorded instance proposing a notion of a regional air support facility. These unspecified machines would be available for a wide range of duties including traffic control and overseeing special events, crime prevention and detection, search, rescue and transportation. It was stated categorically that "... the formation of a helicopter flight by the Metropolitan Police would not be justified..." Further to this it was considered that there would be no call for the same force to use helicopters for either crime prevention and detection, or for search and rescue. Much of the report was based on the premise that the only helicopters available were single engine, and that general over-flights of Central London by single engine types were banned. The main exception was the helicopter route to the east and west along the line of the River Thames. The report concluded that as they stood these air traffic safety restrictions effectively ensured that police aviation over London could not proceed. The writer of the report took only a narrow view of air support for the central areas of London. As was to be displayed in a matter of months, there were vast areas of the Metropolis that were not subject to flight restrictions. With a few exceptions, the officers of ACPO were doing little to promote the ideas behind the report in their own rural areas. Most remained wedded to the agreeable concept of ad-hoc hire and free aircraft loans by a range of tame operators - from the AA to the Lord of the Manor.

A glimpse of the future was laid on in London for a number of police forces in October 1965. Trans World Helicopters, an agent based at Shannon Airport, Ireland, teamed up with the US manufacturer the Hughes Tool Company, [Hughes Helicopters], to demonstrate two new helicopters. Hughes, a manufacturer evolved from the designs of millionaire Howard Hughes, was not a new "overnight success" manufacturer of rotary wing craft, they had experimented with helicopters for some years before evolving the two models brought across the Atlantic for a European audience. Both aircraft were civil machines based upon types evolved for US military requirements. Across the world, they were to rank among the most successful police helicopters ever produced.

The 2/3 seat Hughes Model 269, also marketed as the 200 and 300, the military TH-55 Osage and, later still, the Schweizer S300, was a smaller mid-1950s equivalent of the ubiquitous Bell Model 47 in that it too was a compact bubble cockpit attached to a minimal airframe. Fitted with a similar Lycoming piston engine to that powering the similar sized Brantly, in some respects it initially offered an inferior performance, a situation that was not to greatly inhibit its ultimate success in the world market. In its basic form it was to remain in production for well over forty years, manufacture now ceded to Schweizer at Elmira. It is too early yet to make a judgement on whether the type will outrun the fifty years of law enforcement service reached by the Model 47.

Longevity was also to be the hallmark of the other display aircraft. The larger 4 seat Hughes Model 369, the 500 or military OH-6 Cayuse. The type originated from a US Department of Defense issued Technical Specification for an aircraft that was nominally a Light Observation Helicopter [LOH]. Twelve US manufacturers submitted over a score of proposals and from these were selected one each from Bell, Hiller and Hughes. Five prototypes of each design were ordered in 1961 for comparative tests; the Hughes HO-6 won. On production for the military the designation was changed. The civil derivative of the military observation type, the 500 of 1963, was powered by a single 250hp Allison turbine engine which gave it an outstanding performance - a maximum speed of 150mph allied to a range of over 480 miles. The type was to quickly become a favourite with those police forces across the world able to afford it, or indeed any new aircraft. In Britain it was to be widely used, but use was held back by those same financial con-

siderations. Continuous development over the following 30 years saw the 369/500 evolve into the similar 520 and 600 Notar helicopters which at the turn of the millennium continue to represent the ultimate in single engine law enforcement tools.

Under the directions of the Boundary Commission there had been a number of changes affecting the lines taken by county and political borders. Early in the 1960s plans were set in hand for police forces to alter and reflect those same boundaries. In the resulting re-organisation many of the remaining small forces, particularly the Boroughs, were to combine with larger cousins and disappear. The dates of the changes were staged so different areas faced the inevitable disruption on different dates.

Late in January 1966 it was announced to the press that three north midlands police forces were to operate an air unit together. The Chief Constable of Sheffield, Edward Barker, and Councillor M J Sewell announced on behalf of the police forces in Derbyshire, Nottinghamshire and Sheffield Borough that they were now able to call upon the services of the experienced pilots and aircraft operated by the Sheffield Aero Club in an operation that had already undergone a successful trial in 1965. The facility was provided without cost to the police.

In spite of its name, the Sheffield Aero Club was based a dozen miles away at Netherthorpe Airfield, a grass airfield situated near Worksop, Nottinghamshire. They operated the two seat Cessna 150, four seat Cessna 172, a Piper Tri-Pacer and an Auster. No details of specific police operations have survived the passage of time. but it can be surmised that it was a fairly short lived operation, if only because of force amalgamations which saw Sheffield become a part of South Yorkshire.

The flying club facility only provided small light aircraft suitable for certain types of police operation, it did not remove the long standing need for using the AA aircraft. Coincidentally, on January 29, the police in Sheffield were making use of the AA aircraft. The Piper Apache operated out of Scafton for 90 minutes covering the traffic situation around the Sheffield football ground at Hillsborough. Bill Lewis, the AA pilot, took up one of his local managers and two police officers - Inspector A K Beaumont from Hammerton Road police station and PC Joseph Purseglove from Perry Bar. PC Purseglove acted as the radio operator.

The Sheffield operation of the AA Apache was not without its problems. On an earlier first flight the force had used a personal radio system [then a very new form of communications in many forces] with very pleasing results. Unfortunately the Home Office got to hear of this unauthorised use of the system and objected on the grounds that it may have interfered with civil aircraft radio traffic. Although there were no adverse reports to back up this assertion, the subsequent flight over Hillsborough, in support of one of the World Cup games, made use of a more acceptable type of portable radio system. No further flights in AA aircraft occurred during the life of the Sheffield Borough police force.

The late 1960s were the time of flower power and the coming to terms with living with the nuclear age. Continued large scale public demonstrations against the dangers of nuclear holocaust, many leading to significant street disturbances, took place across the Western World. In Britain the prime leader of these marches and demonstrations was the Campaign for Nuclear Disarmament [CND]. Although the marches were every bit as large and violent as those in the 1930s, the police in London did not generally seek to cover them with aircraft observation. This was reinforced by the continued ban on single engine types over the areas generally favoured by CND marchers.

The decision to undertake policing of these events without the benefits of air observation was not universal. The Manchester City Police, faced with a large scale anti-nuclear weapon demonstration and march organised by CND, and the expectation of large scale traffic disruption between the start point in the city centre and the dispersal point at Belle View, hired a helicopter to assist on September 21, 1962. Manchester were not suffering from the severe city centre flying restrictions affecting London. As far as is known this was the first and last post war flying operation un-

dertaken by this force before it was amalgamated with neighbouring Salford in 1968 - later still it became a part of Greater Manchester Police.

CHAPTER EIGHT

The Army helps out 1

In August 1966 the Home Office Research and Planning Branch approached the Ministry of Defence to investigate the possibility of using military helicopters for trial with the civil police for a few months in 1967. Fortunately, the Ministry were uncharacteristically receptive to the approach and agreed to the supply of British Army, Army Air Corps [AAC] machines to police in their role as "aid to the civil power" - the catch all training phrase that had long ensured economic co-operation with all civil emergency services in times of real need. The background reasons were probably political, but that aspect was really unimportant compared with the eventual outcome. The question of permission for this military/police co-operation was granted at the highest level - the Chief of Defence Staff. After a meeting between officials at the Ministry of Defence and their opposite numbers at the Home Office early in October 1966, the trials were authorised on November 7.

An aspect to be taken into account in the forthcoming trials was the mutual attitudes surrounding the very use of the military in assisting the civil police forces. It was peacetime and police did not get "involved" with the military lightly. In seeking to regularly underline their very civilian status, the police had spent the best part of its century of existence regularly distancing itself from all things military- not always with a great deal of success.

The Home Office liaison team set up to run the operation in co-operation with the military included Metropolitan Police Chief Superintendent V J H Rignell as Co-ordinator, Mr. P Ostler as Scientific Officer and Mr J O'Connor with the potentially thorny post in charge of Communications. At this time there was a mixture of radio systems in use. Most police forces were still using amplitude modulation [AM] but a few, including the Metropolitan Police, had progressed to operating the more modern frequency modulation [FM] equipment. The army helicopters were to be fitted with police "Pye" Vanguard radios in one of the fastest modification problems ever implemented. Although the performance of the installation was not perfect to start with, much hard work by ground support crews at Hannington ironed out most major problems by the end of the training period.

Major John A Coles AAC, stationed at HQ 2 Wing, was designated Army-Police Liaison Officer, initially serving under Lt. Col. Desmond Leach. Leach saw the Army provision of aircraft to the police on this occasion as a wonderful idea which would inevitably lead to the setting up of strategically located groups of military helicopters to undertake a liaison role well into the future at which time they might be expected to be taken over by commercial organisations. Such thinking reflected a variation on ideas already floated at the 1961 ACPO Conference. It was not a view widely supported in the military.

Flying for the British Army was itself undergoing a major re-organisation which brought along with it numerous difficulties. The days when the RAF controlled all flying for the Army were receding and most of the old RAF light aircraft squadrons were done away with. Although retaining use of larger support aircraft and helicopters, the AAC was now carving for itself a new direct support role primarily based upon newly acquired helicopters operated in a new manner. The atmosphere was already steeped in political juggling and petty jealousies without the additional friction represented by the imposition of police co-operation. As the Leach ideas would inevitably include weekend working (an anathema to the a large number of officers in the peacetime military) his vision of the future was considered thoroughly unreasonable.

When Leach was posted away from the unit at he end of his "tour", early in 1967, he made way for Lt. Col. Bill McNich and a completely different attitude prevailed. The die had been cast by Leach and others so the personalities assigned to the forthcoming operations could not be greatly changed or influenced. One of the "old guard", Major Coles, was side stepped to a non-flying role when the scheme started the operational phase.

The "Police Flight", as it became generally known in AAC circles, was set up specifically to research, undertake training and then operate the previously agreed scheme with three brand new Westland-Agusta-Bell 47G-3B-1 Sioux AH1 based at the HQ of 2 Wing AAC, Netheravon, Wiltshire, four miles north of Stonehenge. Loosely termed in some police references as "6 Flight" the three, later four, helicopters were in fact only a small part of this VIP conveyance sub-unit of 2 Wing. Lt. Col. Leach had specifically chosen to base the operation at Netheravon to divorce the scheme from the hostile elements at Middle Wallop.

The Bell 47 used for the majority of police operations was licence built in the UK. Just to complicate the exact designation of the Model 47 built for the British Army, Westland went to Agusta in Italy to finalise the choice and started building them for the Army in the mid-1960s. Except for details, the Sioux AH1 was of the same lineage as the type first undertaking police duties in New York City twenty years earlier. By 1967 the 2/3 seat piston engine Bell had improved its modest performance and offered a type that could operate for some 2½ hours with a fuel consumption of around 18 gallons an hour. The maximum permitted speed was 90 mph, although a more sedate 60-70 was usual. In Army service it was a liaison type and rarely armed, and then only with light guns.

The three Sioux's allocated to the forthcoming trials were XT509, XT510 and XT511. All were new and drawn from a reserve pool which also supplied such out of the way activities as support of the United Nations presence in Cyprus. Police role equipment was restricted to the fitting of a police radio and some additional POLICE signs. The radio was housed on the starboard side in an externally mounted box fitted at upper skid height and mounted on struts that were themselves secured on the points normally used to fit external casualty litters.

Although 2 Wing issued orders to each of their men used in the trials, not all of the manpower allotted by the AAC was readily available. The intended flight commander, Captain John Bamford from 3 Flight, was still undertaking his Sioux Conversion Course at Middle Wallop. John had started his flying career with the Army early in 1964 but, in spite of 600 hours flight experience his only previous flying had been undertaken in the Chipmunk, Hiller and Scout.

Trial flights to a number of intended base locations were undertaken by Lt. Col. Leach and Major Coles. As a result of these a number of the police proposed bases were rejected. One that Leach undertook, the police headquarters at Winchester, Hampshire, slipped the net. It was only later that it was realised that the approach to the designated helipad required a landing approach into what appeared to be a bottomless hole. The modern term "Black Hole" would have fitted it admirably. As the summer weather arrived Winchester was assessed as "hairy" in warm conditions, particularly on take-off and dropped from the agenda.

Christmas 1966 was marked in HM Prison Service by a spate of gaol breaks apparently brought about as a result of a major enquiry into prison security and conditions in the wake of a number of escapes, including that of the spy George Blake. The task was undertaken by Lord Louis Mountbatten and a group of others, among whom was a rising star in the police world, Robert Mark, later as Sir Robert Mark the Metropolitan Police Commissioner. The result of their months' of deliberations was published by the Government in the middle of December. One of the major conclusions presented was "there is no really secure prison in existence in this country".

As if to highlight the statement in the report, within a week a prisoner named Frank Mitchell escaped from the bleak prison on Dartmoor. Frank Mitchell was to be made far more famous to the population at large when he became the victim of the infamous East London gangsters, the Kray

Twins. By Christmas Day the Prison Service acknowledge that there were fifteen on the run nation-wide. To add to the mayhem, on Boxing Day, December 26, five more escapees broke out of Dartmoor.

Although it had not been the intention to involve the Devon and Exeter Police in the AAC trial. force of events decided otherwise. Major Coles was diverted from his fact gathering tour of Surrey to assist the police in Devon with a Sioux. The major initially took a Bristol Regional Crime Squad [RCS] detective, Chief Superintendent Clark, as his observer. It was soon found that he was uncertain of his bearings around Dartmoor. Clark was replaced by Sergeant Holloway a local trained observer. The substitution was not a reflection on Clark's enthusiasm or skill, merely an acceptance of one of the first lessons to be re-learned. The crew required local knowledge to operate efficiently, a two seat aircraft had no room for passengers. It was a lesson that had been learned and then forgotten with monotonous regularity.

On the second day of the Dartmoor escape (December 27) an AAC Westland Scout AH1 was called in to assist. This five seat turbine helicopter was flown by Lt. Col. Leach , and proved very useful in its ability to transport a number of men and their equipment onto the moors. Operation of the Scout was hampered by an inability to communicate directly with police HQ at Exeter. Following its use on transport tasks it was withdrawn after one day.

On the third day one of the Dartmoor escapees, Raymond Hanney, was re-captured. The others were not found and the joint foot and helicopter search stretched into the 1967. Finally, on January 2, the last of those missing from the Devon prison were returned to their cells. They had not travelled far. All of them complained bitterly about being forced to lie low in the seemingly constant presence of the helicopter during daylight hours.

On the eve of the start of the training schedule for the AAC scheme the Home Office R&P Department issued its 1966 report. The majority of the section relating to aircraft use was evidently coloured by the Bell 47 motorway patrol trials almost two years earlier.
Helicopters in police work .....
Practical experiments using a helicopter for motorway patrolling have shown that the use of helicopters for routine duties throughout the day are uneconomical..... on a cost effective basis. However their use in none routine tasks <u>may</u> prove of considerable value
The tone of the statement did not auger too well for the imminent AAC trial.

The following day, January 7 1967, the extensive training programme commenced for the military staff at Netheravon. Captain John Bamford, fresh from his helicopter conversion course took charge of the flying with Captain Burland QRIH [Queens Royal Irish Hussars] and Sergeant Graham Greys as section pilots for the initial phase of the police trials. The fourth pilot, Lt. Hawkins RM [Royal Marines], joined the group with the addition of the fourth aircraft after the flying operations had been underway for a couple of months.

On January 23 the first of four five day full observers courses began at Netheravon. Police officers, all of whom were of sergeant or inspector rank, from Berkshire, Essex, Hampshire and Isle of Wight and Surrey formed this first course. The police were accommodated in both the Officer's and the Sergeant's Mess' of the Hampshire Regiment at Netheravon.

The courses included lectures on the Bell helicopter, ATC, flight planning, police communications and map reading. All of these involved ground as well as aerial instruction. Flying kit was issued to all police ranks from the military stores as required. Liaison officers and others on the short courses of one day observing and one day communications started to attend on the second day. A total of twenty four men underwent the five day full course, twenty three Liaison Officers the two day course and a further twenty the one day course.

With so many new arrivals, on a number of occasions the crew room and mess became very crowded. A number of friendships were soon formed as a large proportion of the police officers had a military background. One man had flown twin-engine Beaufighter fighter bombers from

nearby Middle Wallop with the RAF in the war period, long before the Army took it over. As always, skills learned during this prior military service exerted a strong influence when selecting police observers.

The conclusion of each week's training called for one of the neighbouring forces, usually Wiltshire, to set up an exercise for the Sioux helicopter to act upon. Two of the four main courses managed to end up with a "genuine" job to work on. One, a search for poachers, the other was a search for a burglar's vehicle.

After the unscheduled Christmastide diversion in Devon, Major Coles continued his flights around the various police forces, even as their officers were in training at army camps. On the morning of Thursday February 16 he was at Chelmsford in Essex, in the afternoon Maidstone, Kent. The following Wednesday and Thursday [February 22-23] he flew into Lewes and then Chichester to meet both the East and West Sussex forces. The following day it was Mounte Browne, Guildford, Surrey in the morning and then Battersea Heliport on the River Thames in London during the afternoon.

The London Westland Heliport, better known as the Battersea Heliport, was to feature in the police story often. Situated on the south bank of the River Thames between Wandsworth Bridge and Battersea Railway Bridge, it was well located only three miles south of Westminster. The small landing area, a concrete platform and a connecting taxiway took up a space of under 40 yards [metres] in all directions. It was an unpopular facility that survived in the face of great public resistance. Various expansion plans were thwarted by local campaigns so that the facility was restricted to a maximum of only seven parking places. Assisted by exorbitant long term parking charges, most traffic arrived, refuelled and left in quick succession during the relatively short working day. As a potential police facility it was restricted, but it was virtually the only long term helipad available for refuelling in Central London.

Even at this late stage it was being asked whether the helicopters would have pontoons fitted for flights over London. As the AAC did not possess a set of flotation gear, let alone an airman trained in their use, the answer was a foregone conclusion. Over flight of central London remained a problem and the line of the River Thames was expected to be a primary emergency landing ground. Putting a skid equipped helicopter down on water was not to be recommended under any circumstances. After investigating a number of potential sites, police sports clubs, military barracks and airfields the primary lading site for the London section of the trial was selected as Lippitts Hill, Loughton, Essex. This former military camp, originally a World War Two AAA gun site and PoW camp had been bought for use by the Metropolitan Police in 1960. As it was a secure hilltop site in the countryside, and lay outside the London area ATC restrictions it presented itself as a near perfect solution.

One of the helicopters was diverted from Netheravon to assist the Dorset Police near Wareham on February 28. Two boys were reported to have wandered on to an army tank range and ground searchers were having difficulty crossing a marshy terrain containing numerous unexploded devices. The helicopter advanced ahead of the ground searchers just as a section of them came across the lifeless bodies of the two boys. Although found from the ground in this instance it was readily agreed that calling in a helicopter earlier would have resulted in the pair being found with far less danger than that actually faced by the ground searchers.

A day prior to the completion of the training period at Netheravon, Thursday March 2 1967, Major John Coles was again called out on a police liaison operation to the West Country. The Major again took Ch. Supt. Clark up in a Bell to enable the examination of the otherwise inaccessible walls of the Avon Gorge in an attempt to spot the body of a long missing Bristol University student Rosslyn Evans. He had last been seen on November 2, 1965. In one and a half hours one mile of the gorge was minutely examined from the Sea Walls to the Clifton Suspension Bridge by the pair in the helicopter without at sign of the missing 19 years old.

Training ended the following day. from March 7-18 the Police Flight was officially assigned in

support of the Wiltshire Constabulary operating from Netheravon. Liaison for this force was provided by Ch. Insp. Noble from force HQ in Devizes, about 14 miles away.

The Wiltshire attachment period was very quiet. The eleven days it spanned were filled with an interminable round of "Jolly's" for anyone with a modicum of rank. The only unusual incident turned up was a dead cow in a field. As it was quiet on the final day of this attachment the opportunity was taken to pay a flying visit to the Oxford Police at Kidlington for a local press preview. It was a brief visit and Captain Burland and his observer, Inspector Hallowes of Wiltshire, were quickly on their way back.

It was hoped that the Bell 47's assigned to the police scheme would remain close to their average peacetime monthly allotment of 30 hours per aircraft, 90 hours a month for the whole police operation. A flexible operating regime had already foreseen as much as 60 hours for any one machine, but retaining the fleet average. During the supposedly quiet initial eleven days a total of 60:05 hours were flown by the three machines - not all on police assignments - clearly indicating that flexibility was to be an important factor. When faced with the figures the Army stated that the relaxation of the normal peacetime flying limit of 30 hours was out of the question. The flying limit reflected fleet spares availability. In effect, every extra hour on a Police Flight airframe had to be deducted from another machine elsewhere to retain the status quo.

After the first few undertaken, it was found that periods of detachment required the presence of four Army pilots supported by 10 non-commissioned Officer's and other ranks. The first operation away from Netheravon was operating out of the ground of the Force HQ, Springfield, Chelmsford, in support of the Essex Constabulary from March 19 and April 2, 1967.

Only three pilots and helicopter's were sent. The observers selected by the Essex police were all of inspector or chief inspector rank. John Posten, George Manning and Eric Fretton, the inspector's, with Donald Harmer and H F Smith, the liaison officer, the chief inspector’s. Although trained to a common standard, the officers were drawn from a range of different departments in order that different perspectives might be addressed in the subsequent trial debriefing.

Whilst far more interesting than the Wiltshire attachment, the Essex period was also relatively quiet. The only incident to result in getting the adrenaline flowing was when a helicopter piloted by Burland came across a group of cars and people gathering in an isolated farmyard. The idle curiosity of the helicopter crew, resulting in a Burland undertaking a low pass of the scene, caused the "meeting" to instantly break up. There were cars leaving the spot in all directions. Burland took the helicopter high to be able to report the progress of the fleeing vehicles to intercepting ground units. Although a number of them were subsequently stopped, and some found to have criminal records, no satisfactory reason for the gathering was ever discovered.

One of the last activities undertaken was the coverage of a Point-to-Point race meeting held at Marks Tey, west of Colchester, on April 1. The total number of hours flown in the period, 127:35, exceeded the monthly allowance by a handsome margin, a situation that did not meet with wide approval. The fleet of Bell's was increased by the addition of the fourth pilot and XT239.

At the conclusion of the first detached period, Capt. John Bamford and Ch. Insp. Smith produced a report on the lessons they though had been learned. It was concluded that, owing to the tremendous field of view presented to the crew, it was impossible for absconder’s, for example, to escape from them once sighted. Where a known location is given accurately to the helicopter crew the air unit will find it quite quickly. Whilst adequate for missing person searches, an area of something like three miles radius was too inaccurate to work on in such circumstances as a suspect search. The report also covered aspects such as rooftop marking of police vehicles [Essex vehicles were largely of a dark hue] and in suggestions of how individual units were to direct the helicopter toward themselves and any sighted target using radio and, if necessary, hand signals.

The following three weeks the flight were back at Netheravon. The return to base allowed the unit to go through a period of maintenance and re-supply after the deployment, but they were still

tasked with providing support to Dorset in the south and Oxford to the north. The home base police support activity was no more economic than the time away, with a total of 104 hours being accrued.

April 9 was set aside to undertake exercises intended to investigate the effectiveness of the Sioux in sighting and identifying a target vehicle on the roads around Dorchester - a familiar enough scenario. The start location of the target vehicle, a white Triumph 2000, was known to the aircrew, but the commencement of the air-search was deliberately delayed in order to gauge its effect upon the effectiveness of the exercise. With a "reporting" delay of only one minute the crews found no difficulty in finding the speeding car along a known route in a matter of seconds in spite of a 30mph easterly wind and a fairly short 10 mile visibility.

Unfortunately, the third two minute test report was sent out the position of the bandit car inaccurately as "..... heading north-east..... ". The information sent the crew of the Bell looking up the incorrect road towards Blandford whilst the car set off at high speed by a different route towards Sherborne! The modest performance of the helicopter, plus a low fuel level, resulted in the Triumph being left to its own devices. Given a good driver and a clear road the Triumph could outpace the Bell by 10mph, it was therefore not a question of backtracking and picking up he scent. It was not a particularly scientific trial, but it did underline many of the observations made in the report at the conclusion of the Essex trial. Without the availability of a speedy high endurance helicopter, reports would have to be accurate in the first instance. A police driver in a trial may be coerced into returning for another try, but there were to be few second tries on offer with the real thing.

The next attachment for the Police Flight was a fortnight operating with the Surrey Constabulary from April 24. The helicopters were based on the grass of the playing fields at the Surrey HQ at Mount Browne, Guildford. It was to prove a fairly exciting two weeks, although at just over 83 hours flown, not particularly costly. Unusually, in a period when more senior ranks were usual, Surrey chose to use sergeants as observers.

On Tuesday May 2, within days of their arrival at Mount Browne, John Bamford was called away to assist the Hampshire and Isle of Wight Constabulary at Havant on the coast to the east of Portsmouth with a search task. The Bell flew into and operated from the car park of the new police station in the town. Viewed in retrospect, with far more stringent operating procedures now accepted, it can be seen that the chosen location was somewhat smaller than the ideal and operating from it not without dangers. Fortunately no emergencies arose.

John Bamford's task was to assist local police officers in their search for 29 year old Derek Rose who had escaped from the Havant Magistrates Court as he awaited facing charges of rape. Road blocks were set up by police in Hampshire and nearby West Sussex and tracker dogs were called in. After a week on the run, Rose was re-arrested the following Tuesday hiding in the house of a friend. The helicopter did not take any direct part in the final outcome. Throughout the trials Hampshire was not allocated any set period of helicopter attachment, the needs of the force area were met on an ad-hoc basis co-ordinated from HQ at Winchester.

In Surrey on the first Tuesday there was ample excitement to report. On the first Thursday of operations, April 27, a call came in from a detective constable in the Woking area to say that he had been assaulted. The suspect broke away from the policeman and made good his escape. The Mount Browne Control Room alerted the helicopter detachment which took off six minutes later piloted by Captain Burland.

Directed by a combination of radio on "talk through" and energetic hand signalling from those on the ground the helicopter found itself over a spot on Horsell Common, west of Woking. The Bell kept some way ahead of the ground searchers and came upon a man answering the description of the suspect. The capabilities of police helicopters were very much a mystery to the quarry [and many of the police present] so he saw no reason of giving himself up to the men in the clattering flying machine, police or not.

Whatever his initial conclusions about the situation at hand, it soon became abundantly clear to the running man the helicopter was not to be lost as easily as he thought. The final stages of the unequal chase were played out in the grounds of St. Andrew's School, Horsell. As the pupils digested Scripture, Latin and Mathematics, bedlam broke out as the helicopter pursued the running man across the cricket pitch at low height. Shortly after his appearance before the youthful audience and harassed teachers he finally stopped and gave up to the three on board the Sioux. As dozens of breathless officers staggered up to arrest him from various points across the fields, two fresh policemen leaped from the helicopter and recorded the first arrest of the trials.

Having the arrest occur within the school grounds was a godsend for the media. The story carried in the pages of the *Daily Express* came across with a suitable comment from the headmaster at the time, Walsham Maynard, and leaned heavily upon the subjects he and his colleagues had failed to teach for a while. A quote in Latin was even attributed *fiat justita ruat coelum* [let justice be done though the heavens should fall]. Someone may well have made that up back in the press office, but it wasn't a bad effort either way.

After the split stint of operations in Surrey and Hampshire the Flight returned to operating general support duties from Netheravon from May 8. Following a relatively restive period at "home" [under 57 hours were logged in a fortnight] they were again airborne and heading east to operate with the police in East Sussex.

Operations with police in Sussex were slightly complicated by the separation of the county into two separate police forces, each with its own chief constable who might feel that his area should not miss out on the military helicopter liaison opportunity. Although it proved to be a particularly quiet area to operate in, the county received a disproportionate military presence by virtue of this separation. In two weeks the Sioux accrued a total of 80 hours flying four sergeant observers from a temporary base at Lewes. There were no notable incidents. Two months later the helicopters were scheduled to visit neighbouring West Sussex. Ironically the two forces [and some related Borough Constabularies] were to be amalgamated on January 1, 1968 - only six months later.

In the twenty days of June spent back at Netheravon on general support duties the unit became embroiled in some unusual variations on their police duties. In one instance the helicopters were assigned as part of the prison escort to the convicted Charles Richardson and his gang. At the end of his so called "torture" trial at the Central Criminal Court, Old Bailey, on June 8, the gang leader, Richardson, was sentenced to a term of 25 years imprisonment on nine counts of assault, robbery and demanding money with menaces.

Two Sioux helicopters flown by Capt. Burland and Sgt. Graham undertook to leapfrog each other up the A1 Great North Road as escort to a column of prison vans travelling the 280 miles from London to Durham Gaol. The creation of security by resorting to high speed transit of the prisoners to the prison created large problems in flight planning. The police convoy travelling at high speed up the motorway was an impressive sight, but highlighted the relative lack of performance of the Sioux. With both cruising at an agreed speed around the 85 mph mark, the ground units below were often in danger of outstripping the aircraft if not kept aware of problems presented to their air cover by adverse headwinds.

The Police Flight were to undertake coverage of Epsom Races, in support of a Metropolitan Police requirement, on Wednesday and Friday June 7 and 9. The Durham operation led to the cancellation of the helicopter presence.

When seeking the use of the helicopter in place of the usual free seat in the AA Apache which was stated to be "..... lacking in manoeuvrability and too fast ..... " for the task. This written criticism was very much in the vein of the comments expressed in the wake of the 1923 use of the Vickers Vulcan. Faced with a clear choice between the Apache or nothing the carping was quickly forgotten and Inspector Doughty flew a total of four and a half hours traffic observation

with AA pilot Bill Lewis on the Wednesday, the Sioux helicopters being busy at Bramshill College all day. Prior to involvement in the helicopter trials, Doughty flew in both the last Auster flight of 1961 and the last AA flight over Epsom prior to the ascendency of the helicopter.

Even on the Friday the helicopters did not arrive until late in the afternoon, 1530hrs., and left at 1650hrs., the same time as HM The Queen, prior to returning to Dorset. In the short time they were over Epsom communications were reported to be "very poor". The meeting at Bramshill, held primarily to present reports, was used to table a request for an extension of the trials beyond the August 31 deadline. On June 20, Col. McNich advised that trials could not continue unless proper financial and manpower cover was provided. An alternative was to approach the CO's of the various Air Troops and persuade them to lend their men and aircraft to the police.

Between June 26 and July 9 the helicopters were on detachment to the Metropolitan Police, London. In the early planning phase it had been intended that one of the police owned Area Sports Clubs would be used as a base. The most popular choice lay with Imber Court in the south west. The aircraft was to be kept on the well groomed grass of the playing fields and the personnel were to be accommodated in a police section house at nearby Sunbury. The site was finally rejected on technical grounds when it was realised that flying operations would be severely hampered by the proximity of both Gatwick and Heathrow Airports.

With the avoidance of ATC problems uppermost, the deputy commissioner at the time suggested two alternative sites in the north-east of the Metropolis, about 14 miles from the centre of the Capital. On Thursday May 4, Deputy Commander Hunt and Supt. Hodgson took Major Coles to view the pair. The first, the Police Sports & Social Club, Chigwell Hall, Chigwell, Essex was reasonably acceptable in the provision of vast playing fields to operate from and convivial bar to hand. It was after sighting the range of facilities available at Lippitts Hill Camp - including the promise of an well equipped workshop, pointed out by the resident caretaker Reg Marks - that quickly led to the exclusion of the sports facility from the deliberations. Major Coles decision in 1967 was to have a far reaching effect upon the future of this ex-army site.

Lippitts Hill, the feature situated to the south of Waltham Abbey and set between Epping Forest and the village of Sewardstone, the one time home of the highwayman Dick Turpin, might easily passed through history as an unremarkable bump on the landscape were it not for the needs of war. The War Office first took notice of it as a London Defence site immediately prior to the Second World War. The plot of land that evolved into Lippitts Hill Camp was a thoroughly "green" site, the home of a small rose nursery, until the workmen arrived and erected the first of many warlike structures.

British anti-aircraft artillery [AAA] of 137 HAA Regiment, 26 AA Brigade, was set atop of Lippitts Hill to guard the eastern approaches of London. To this unit Lippitts Hill was site E7 manned by 631/148 Battery. Within weeks they were in operation against sporadic targets, both friend and foe, venturing near to the Lea Valley. Within a year the guns were at full stretch against the enemy onslaught on London.

The site only came fully into its own after the entry of the United States into the war from late in 1941. In the summer of 1942 the British guns gave way to B Battery of the US 184th AAA and the site was extensively refurbished. The GI's were equipped with 90mm [3.54 inch] M1 towable AAA. In December 1943 the British gun unit was still shown at Lippitts Hill, although it was non-operational.

The majority of the concrete structures that remain on site today were erected by the US forces, gun emplacements, sunken block houses and a massive underground control room were supported by permanent roadways and a range of wooden and concrete buildings. In spite of all this infrastructure the GI's had to wait two years before they could fire their guns in action. This relative lack of real action was undoubtedly eased by the close proximity of "The Owl" public house , an Essex clapboard watering hole opposite the main gates that took on the mantle of local entertainment for the camp. Three months after the first taste of action for the Americans, in the wake

of D-Day, in mid-June 1944 they were gone and the camp was temporarily abandoned.

The site was taken over by the British Pioneer Corps., and turned into a prisoner-of-war camp for captured German soldiers. Many of the warlike features, such as the gun emplacements, were buried in spoil for security reasons. The Germans too left their mark on the hilltop and the first thing that greets any modern day visitor to the main entrance is the carved concrete statue of a man completed by Rudi Webber 540177 in October 1946. Like most of the wartime features, it has stood the ravages of time well. As had the GI's, the Germans too moved on in the late 1940s.

After the war the American's erected a simple memorial to mark the period of their occupation. Situated on the south-west corner of the camp the dedication and unveiling ceremony was undertaken by Mrs Lewis Douglas, the wife of the US Ambassador. As for the former gun-site, the army increasingly found little use for its facilities in the post war years and it may have gone the way of several others in the area, suffering a rash of squatters, dereliction and eventual destruction by bull-dozer, had it not been for the arrival of the Metropolitan Police.

Faced by the requirement to operate the Home Office CD PMC the London police moved in training for this and added police cadets, resting horses and local continuation training of police dogs. When, in 1960, the army showed a wish to dispose of the camp, the police bought it and set about making it fit a range of police tasks more closely. A police wireless base station and "spare" police information room to replace Scotland Yard if it were ever flooded, a not unlikely event that has never yet occurred, were set up in the control bunker. For a few years the CD work continued until, late in 1965, the Labour Government sought to abolish the system as an economy measure. Only a single further column was operated, in 1966. Civil Defence did not leave the site, a stand-by feature of the underground bunker, as a nuclear fall-out proof refuge, were to remain for another twenty five years to cater for the local nuclear air attack warning systems, using secure telephone lines, until the final demise of the Warsaw Pact threat in the 1990's.

At the removal of the PMC, the locals understandably breathed a deep sigh of relief. The sense of relief was very short lived however, for before the old beast had actually been removed, in August 1966 three police officers were murdered in Braybrook Street, West London, and Lippitts Hill quickly became a centre for an urgent need to train more police officers in the use of guns. From a relatively small start, external pressures from criminals, terrorists and politicians resulted in ever more growth for this branch of activity within the camp.

It was the inevitable results of this rich history surrounding Lippitts Hill Camp that made Cole's eyes light up. The location was provided with large areas of grassland to operate the helicopters from and, although it did not have the luxury of hangers, it featured a range of buildings with workshops and barrack accommodation which were to represent a home from home environment for the military visitors. The lack of a Sports Club bar was amply made up by the closeness of "The Owl".

There were other pertinent reasons for choosing the location. The hilltop site offered commanding views to the west - across the reservoirs of the Lea Valley - but most importantly lay outside the restrictions represented by London ATC. Even after the 1967 trials, Lippitts Hill was to be a difficult place to dismiss from any base site evaluations. It was in uncontrolled air-space and its very remoteness represented a base with police controlled security and very few neighbours likely to be upset by the noisy helicopters.

In spite of the ready availability of barrack accommodation it was decided to billet them overnight in a modern police section house situated in Lea Bridge Road, Leyton. This 1960's tower block living quarters was intended for the young single members of the police, and offered a better standard of facilities and easier access to the undoubted attractions of the city. As a new building the police were understandably showing it off to the visitors, and drawing a veil over the ancient military barracks. The military pilots were housed on the 9th floor with their own separate eating

room, the Other Ranks slept on the 4th. and dined with the other residents. True to the drawbacks of many such tall buildings, during their stay a group of the "upper level" visitors were predictably treated to a seventh floor lift failure.

The London attachment nearly failed to arise due to technical difficulties. This force was the only one in the trial group to use a modern FM radio system - each of the others continued to use the Home Office AM system of an earlier age. It was thought - not without good cause - that problems would arise, although these were lessened by the easy access afforded by the external mounting of the equipment on the starboard skids. A mobile police station caravan was set up in the camp to undertake the role of local control room.

The two officers designated as the Metropolitan Police liaison team were administrators nominally stationed at Scotland Yard. The observers, each of whom had gone though the Police Flight training course earlier in the year, were drawn from a wide range of police departments. Some were new and others had limited operational experience. Sergeant Saint, originated from the later infamous Special Patrol Group, Detective Sergeant Jones, from the Regional Crime Squad, Inspector Doughty, a former glider pilot, and Sergeant Ron Potter were Traffic, Inspector Eacott was from an ordinary G Division police station in the East End. Sergeant's Harris and Cook held pilot's licences. In addition to these seven, there were two other sergeants. Potter had been the only London officer to fly in the AA Auster almost a decade earlier.

The three helicopters arrived at Lippitts Hill on the afternoon of June 25, with the press invited to the official launch event during the morning of the following day. It was found possible to launch one of the helicopters on a substantive operational sortie to Enfield, just across the Lea Valley. At 1128hrs the camp based control picked up information that a person had left a motor cycle and run away in the vicinity of the A10 Great Cambridge Road. One of the helicopters was duly sent off to search for the missing motor-cyclist two miles away from the camp. In spite of the relative closeness of the location nothing was found. With their usual alacrity the news reporters expanded the event far beyond its true worth.

Although he was ostensibly non-operational, on June 26-27, Major Coles flew one of the Sioux on a series of brief visits to display the helicopter to parties of police, press and onlookers at three of the police sports clubs at *The Warren,* Hayes, Kent, *Imber Court*, East Moseley, Surrey and attached to the Training School, Hendon. These visits were all that some areas of London were to see of the army helicopters. The London attachment was ostensibly to the whole of the MPD. In actuality reactive operations were mainly confined to 3 District, in the north-east quadrant of the Metropolis, just one quarter of the whole police area surrounding the temporary base. Aside from the fears about operating the single engine helicopter over central areas, the speed and range performance mitigated against reacting to many calls for assistance from further afield.

In the following two weeks a total of 91 hours was flown. Following the launch ceremony operation to Enfield, a further "unnecessary" flight took place on the Wednesday. At 1430hrs the helicopter was called to Barking Park in East London to assist foot police in their search for three year old David Newman, missing from near a boating lake. As a fillip to the credibility of the air support operation, as far as the media was concerned the helicopter "found" the youngster. The flight crews readily admit that in fact foot patrol officers found him some two miles from the area that the helicopter was searching.

On one of its longer forays, at lunch-time on June 29 one of the Sioux was despatched to Northolt in north west London to search for three men seen to leave a house. The aircrew traced the trio and directed officers in. All three were arrested and charged with house-breaking.

Less than a week later, one of four calls on July 3 led to a helicopter crewman undertaking the only direct arrest of the Metropolitan period. At 0937hrs the helicopter was called out to Chigwell Row, near the police sports ground and three miles from Lippitts Hill. A suspect was seen to leave a house in this exclusive residential area and attempt to make a good escape from the vi-

cinity. The crew flew over and found him lying face down in a drainage ditch, at which he leaped up and made a run for it. As had occurred in Surrey a few weeks earlier, the helicopter literally ran him into the ground. Still fresh, the observer, Sergeant Derek Saint, was landed close by the exhausted suspect and arrested him. He was taken to the local Claybury police station in Woodford Bridge and charged with house-breaking.

The tale ended that September at Chelmsford Quarter Sessions when a man was sentenced to imprisonment for six months. According to the news reports of the occasion, the burglar was supposed to have thrown his hands up in surrender and gasped "Yes, it was me. I was afraid you were going to land on me".

In 1967 Francis Chichester, a famous 1930s aviator, was in feted at the completion of the first solo round the world yacht journey. He made a landfall in the Western Approaches to the United Kingdom in the June. The unique nature of his achievement was to be marked by a ceremony of Knighthood scheduled to take place at the Tower of London on July 7, one of the final few days of the helicopter trial in the Capital.

Sir Francis Chichester, Lady Chichester and their son Giles set off from Plymouth to sail the diminutive Gipsy Moth IV via the south coast and the River Thames to the scheduled meeting with HM Queen Elizabeth II. Two of the Police Flight helicopters were scheduled to provide air cover for the leisurely arrival of the vessel up the River Thames from Southend. Progress of the voyage towards its goal was provided by ample press and Coastguard coverage.

On the first day, Thursday July 6, helicopter coverage was fairly low key. Continually informed by reports from the police in Kent and Essex, the progress of Gipsy Moth IV was charted up the river until the first over flight of over one hour was launched in the evening to witness the craft moor for the night at the Royal Naval College, Greenwich. The following morning flight operations started early with two helicopters operating from 0845hrs until 1230hrs - the period between cast off from Greenwich and arrival nearby for the meeting with Queen Elizabeth II and the dubbing ceremony.

The procession up the River Thames on the Friday was covered by the press from boats, the land and helicopters. Normally keeping track of the movements of helicopter traffic along the line of the river lay with Battersea Heliport. For this particular days task the control task devolved to the police helicopter. The Controller at Battersea, being well out of sight of The Tower and Greenwich, was unable to provide effective control of the numerous hired press machines and enforce the temporary air traffic restrictions in force for the day. Among the craft in use with the media was a Bristow operated Westland WS-55 which overstepped the mark flying along the line of the river towards the assembly, only to attract the attention of the police helicopter observer, Inspector Doughty. Clearly an advance upon earlier air traffic “wave-off” tasks undertaken by police autogyros’ and Auster’s, this was probably the first instance of a British police helicopter taking on a pre-planned direct air traffic control task by means of radio contact.

During the same afternoon eight further flights were undertaken, including two on traffic observation over the traffic attending the final stages of the Lawn Tennis Championships underway at Wimbledon. The helicopters were not present over Wimbledon for the Finals, their last operational trip of the Metropolitan Police attachment being undertaken assisting ground units with supposed suspects in a North London building at 1630hrs on the Saturday.

Their task completed, the three Bell’s returned to Netheravon on General Support Duties until July 22. Much of this break period was spent attempting to solve outstanding communications problems. One task related to use of the Police Flight helicopters as an airborne command post, this highlighted problems encountered during the Sir Francis Chichester operations. Resolution of these specific problems proved insuperable, the mix of radios in police use in a period of change from HF to VHF complicating the situation.

On Monday July 23 the AAC unit was detached to the scheduled period of aid to the West Sus-

sex Constabulary based at an army barracks in Chichester, force HQ was sited in the town. Sussex assigned three inspectors and a detective chief inspector to the observer role, with a superintendent and chief inspector undertaking the liaison role. In comparison to the earlier visit to East Sussex there were a few more notable operations during the time at Chichester.

Traffic observation was undertaken over crowds attending horse racing at Goodwood from the Tuesday to the Friday. The final total of 60 sorties, amounting to 95 hours and 55 minutes, included a range of pre-planned and emergency flights. In addition to the racing four unconnected searches were mounted for escapees from Chichester, Brighton and Ford Open Prison as well as a missing boy off the beach at Bognor Regis.

Presaging what was to be a major problem with police operations twenty years later, the daylight flights by the noisy Bell's created an avalanche of complaints from the largely conservative residents of housing close to the flying base at the police HQ. They were quickly placated, in this instance, by promises that the operations were only for a short period.

From August 7 to 19 the unit returned to Netheravon on general support duties prior to returning east to undertake the final two week scheduled period of attachment to a police force. Operations with Kent Constabulary commenced on August 20 and ran through until the end of the month. An opportunity was taken to operate the visiting helicopters in conjunction with a PMC. That Kent were to be the only force to attempt this use was indicative of the general decline of the mobile column in police planning by 1967.

John Bamford was treated to individual publicity during this attachment when news reporters, snooping on the police radio waves, happened upon a supposed first in the annals of police aviation. The prestigious "Sunday Times" carried a report that Bamford's police helicopter had latched on to a Volvo sports car travelling down the M2 motorway and arranged for its interception by ground units, this performance being hailed as the first operational chase and detention of a suspect car. Even the pilot discounts any claim to that description. In fairness, it may have been true within the confines of the County of Kent.

It was perhaps fitting that this series of Aid to the Civil Power should close as it opened, with a series of prison breaks. Captain Burland assisted in containing the area around Maidstone gaol looking for a man who had escaped custody. At 1450hrs on August 27, the last Sunday of the trial and a Bank Holiday weekend, eighteen year old murder suspect James Bardoe made a successful escape from the exercise yard at the prison in an attempt to circumvent a charge of murdering Doreen Smith, 24, at Swanscombe. After five hours of relative freedom trying to avoid the searchers he was cornered by a group of four youths and forced to surrender. Although not directly concerned with the re-capture of Bardoe, subsequent research showed that the escapee had been unable to break cover for any length of time due to the presence of the Bell temporarily operating from Wemyss Barracks.

The Kent section of the trial continued beyond its scheduled July 31 cessation date. One helicopter was held back, involved with co-ordination of search operations for yet another two wanted men in the vicinity of Ash Ranges.

On July 31 Wing Orders were issued for the closing down of the police operation after a total of 178 days. The three original Sioux helicopters were sent back to storage and XT239 sent off to continue operations with an Air Squadron.

The Sioux had acquitted themselves handsomely within the limits of their performance envelope. Although many flights involved skills that might be considered little more than variations on standard military duties, over the period of the trial the military crews had undertaken many tasks for which they were never trained. There had been 832 requests for the use of the helicopters, an average of 4.7 each day. Traffic patrol and control, missing person searches [at 19% the greatest call upon the helicopters and ranging from desperate escapees to wandering children], searches for illegal immigrants, air photography, direct arrests ….. the list goes on.

For the individual AAC crews there were to be precious few further instances of re-using the co-operation skills they have learned over the eight months. After Captain Burland left the AAC he became involved in the operation of civil helicopters in support of police operations, culminating in a large amount of flying for the Thames Valley Police. John Bamford was also directly involved in police aviation after leaving the AAC. In his case he flew with the Royal Oman Police on a series of contracts that employed him into the 1990s.

Even as the forces in the south of England were involved with taking up the free service provided by the military, the Lancashire Constabulary were continuing their long standing efforts in arranging ad-hoc hire to ensure air cover at suitable events. Presented with a potentially troublesome commitment of football matches in the county on Saturday January 28, they hired two Brantly B2 helicopters from BEAS at a cost of around £300.

In addition to coverage of ten [mainly FA Cup] matches to be played in Lancashire, two in Manchester and one each in Barrow, Blackburn, Bolton, Burnley, Bury, Bolton, Oldham and Preston, there were other matches for which the fans were streaming south.. The travel arrangements to these, Liverpool included, were severely hampered by a lack of special trains being laid on. All leave was cancelled for police traffic patrol officers and local patrolmen of the AA and RAC. Police resources were considerable, two helicopters, 108 motor patrol vehicles, 70 motor cycles and 250 traffic officers.

Flying between 1100hrs and 1500hrs, the two Brantly's were each assigned half of the county. The observers were Chief Superintendent Jack Allen MBE, operating from Old Trafford Cricket Ground, and Superintendent Tom Watkinson operating from the cricket ground of Fulwood Barracks, Preston. The selection of these two officers displayed a continued tendency to use only very senior officers in the observer role.

It was estimated that something like 300,000 spectators in 100,000 vehicles were criss-crossing the area to attend their own choice of footfall game. In Liverpool alone, where both local teams were drawn to play away from their home grounds, some 35,000 fans were streaming out of the city towards Burnley and Watford. Airborne communications were reportedly very good, with the observers finding little difficulty in identification of most police transport. Whilst the latter were not specially marked for the occasion, many were already painted a bright orange. The scheme was quite distinctive and certainly a rare choice for the period. In the event no major problems arose with crowd disturbances on the day.

As the AAC trials continued in the south, on April 8 1967 the Lancashire Constabulary again hired in a Brantly helicopter for traffic control duties at a sporting event. The further use was over the long standing commitment to the Grand National at Aintree. Held in high esteem as a national event the Grand National race represented the bedrock for the survival of Aintree as a racing venue. The future of the racecourse was threatened from time to time and attendance numbers plummeted and rose with public attitudes to the Topham family then owning Aintree. Predictably, police use of aircraft waxed and waned to reflect the rise and fall in numbers attending.

The Brantly was again acquired from BEAS at Oxford, with newly promoted Chief Superintendent Tom Watkinson acting both as the observer and, with the use of the radio linked to Lancashire Constabulary, officer in overall charge of road operations. On the ground, liaison was maintained with the chief constable of Liverpool City Police, who's men were responsible for policing the southern approaches into the race-course.

The £200 spent on hiring the Brantly was considered well spent. Although attendance figures for the Grand National were less than half of those enjoyed in the late 1940s, there had been a marked recovery in numbers with 100,000 spectators attending the 1967 meeting in approximately 15,000 coaches and private cars. Minimal delays ensured that everyone was into the on course car parks in good time for the commencement of the horse racing.

Throughout the late 1950s and into the 1960s, the police in New York continued to maintain a leading position with helicopters in police aviation. The NYPD had extracted better use from a fleet of half a dozen Bell 47J Ranger helicopter's than had been the case in isolated uses of the type in the UK. They were also to be a lead customer for the civil Bell 206 JetRanger. In spite of the similarity in name, there were to be few links between the 47J and the 206.

A major helicopter design in the development of the helicopter in law enforcement, the Bell 206, and its derivatives were to enjoy a production run exceeding thirty years. The origins of the design lay in the US military LOH competition of 1960, the Bell submission the HO-4A flew in 1962 but failed to beat the Hughes OH-6A Cayuse to gain the production order it was seeking. Five examples of the military type were retained by Bell for testing and research, but it was a new civil derivative which flew as the Bell 206A early in 1966. An entirely new airframe, it was its engine and rotor system that came from the military project. Assisted by the time put in testing of the HO-4A prototypes, the single Allison turboshaft powered JetRanger was certified by October in the same year.

The first two JetRanger's entered service with the NYPD in the summer of 1967. The JetRanger was to be one of the principal types chosen to undertake law enforcement across the world. Only in later years, with the expansion in roles and equipment carried by law enforcement types, was the formula strained. Even then, a series of clever derivatives of the airframe and power train kept the type abreast of developments.

The third type in the trio of prototypes produced for the Army LOH competition of 1962 was the Fairchild-Hiller FH-1100. As the HO-5, this also lost out to the Hughes OH-6A and the four seat type was the first turbine powered helicopter to be offered on the civil market. Unlike its two rivals it enjoyed less success in the transition, with production ceasing after some 250 units had been sold. Although not ignored in the police market, the Royal Thai Police alone ordered sixteen, use reflected the total sold and it was not to see widespread use.

CHAPTER NINE

The Army Trials - Part 2

In spite of the early reticence by the Army authorities, such was the measure of success of the earlier series of operations by the Sioux helicopters that by October 1967 new meeting were being arranged by senior police, army and Home Office officials. In the new talks the intention to widen the number of recipients of military based police air support was set as a target. The flying was not to be undertaken by a central unit on this occasion, the task being devolved so that a wider range of AAC formations might experience working in a police environment.

Unlike the Police Flight operations of 1967, the second series of four distinct operations in support of police attracted a title. The series was appropriately called “Aerial Peeler” with each of the four sections being entitled Aerial Peeler I, II, III or IV respectively. In the face of a measure of reticence in some sections of the AAC, flight hours in the new trials were to be reduced to the normal, spares conscious, peacetime limit of 30 hours per aircraft per month. The scope of the flying was extended in that a number of hours were to be made available on AAC turbine engine types - the Westland Scout and the Sud Alouette II. In the event the use of turbine types was restricted to Aerial Peeler III and the Scout.

There was no attempt at continuity, for each new section AAC crews were wholly newcomers to the operation, in addition mainly new faces appeared in the ranks of the police observers. The exception was the Metropolitan Police, the centrally funded “Mets” were again favoured by a larger helping of the experimental cake and the Aerial Peeler series commenced with a return visit to London.

On the earlier visit to London it had been clearly demonstrated that the chosen base of the Sioux helicopters at Lippitts Hill had resulted in the majority of calls dealt with being in the north-east of the police area, few excursions south of the River Thames being undertaken. The underlying reason for this lay with the modest performance of the helicopter. The problem was to remain until such time as an additional southern base was brought into service twenty-eight years later. In an effort to improve reaction times to the areas where it was assumed that the need was greatest, and to seek to address the coverage of southern London, a new base was selected in Woolwich, beside the River Thames in the east. Lippitts Hill is almost 12 miles from The City of London, Woolwich only 6 miles - potentially a clear saving in transit times.

Led by Lt. Roland Hancock, Lord Castlemaine, police support operations, by the Air Platoon of the 3rd. Battalion Parachute Regiment, normally based at the Royal Aircraft Establishment Farnborough, Hampshire, began at 0800hrs on November 15, 1967. Additional pilots in the operation included Lt. Frank Esson, Air Platoon Commander, with some difficulty arising over the number three pilot. The original selection was of a pilot from another, non-Parachute Regiment, formation, but he quickly let it be known that he was not going to fly over London in the poor flying conditions prevailing on his arrival. This eminently sane declaration resulted in his departure and the arrival of Lt. Stickley as third pilot. Police observers included Inspector Doughty and Sergeants Potter and Saint. The military crews were billeted on site in the mess appropriate to their rank and the police crews returned home at the finish of each day’s duties. A police control caravan was installed in the lee of one of the buildings on the edge of the parade ground used as the heli-

copter operating base.

Operations from the base, Shrapnel Barracks, Woolwich, were scheduled to continue for over a month until December 20. Mindful that it was winter and the base was close to a potentially foggy river [a feature already pointed out by the original third pilot], an alternative operating site was nominated as Northolt in the north west. At least one flight was undertaken from Lippitts Hill.

During Aerial Peeler I a large number of flying hours were lost through bad weather, often the cloud base was below the highest buildings and visibility along the River Thames and in the Lea Valley was less than one mile. The Sioux, not having an instrument flying capability, also suffered from serviceability problems exacerbated by the damp atmosphere. The figures speak for themselves,

Week 1	Nov. 15-21	3 aircraft available	8 hours flying
Week 2	Nov. 22-28	2 aircraft available	12 hours flying
Week 3	Nov. 29-Dec. 5	3 aircraft available	18¾ hours flying
Week 4	Dec. 6-12	2 aircraft available	19½ hours flying
Week 5	Dec. 13-20	3 aircraft available	19½ hours flying

In the period there were 138 requests resulting in the eventual total of 77¾ hours flight time for the three aircraft. Bearing in mind that the summer operations had regularly exceeded the 30 hours per aircraft per month peacetime limit. On that basis the second Metropolitan Police period could have led to a minimum of 105 hours flying. The combined effects of the weather and mechanical factors resulted in a shortfall of 50% in hours during the first week, and this only improved to 25% during the final week.

Even when they did their best, circumstances rarely allowed success. Lt. Stickley flew Inspector Doughty in Sioux XT499 on an operation for one of the Regional Crime Squad's on November 24. The pair set off in the murk to seek out some buildings in a secluded area of Kent, resorting to the use of large road signs to confirm their position. Unfortunately the target was set in high ground and as the Sioux climbed further up into the murk in the vicinity of Biggin Hill airfield it became abundantly clear that the mission would have to be aborted. The pilot set the Sioux down at the airfield and the pair returned to Shrapnel Barracks by car.

The third week of the Woolwich attachment commenced with the arrival of the cameras of "Pàthe News" on the morning of November 29. At the time this public cinema news medium, although waning in importance, was on par with television in the spread of public information.

In an effort to mask the undeniable problems posed by the inclement weather, it was decided to concentrate flight efforts in the direction of scheduled operations. It was realised that operating on a reactive basis in inclement conditions was producing poor response times and good results were required if there was to be a future for police air support. Further difficulties surfaced with the long established use of Bartholomew's road maps by police cars for navigation. The books represented a standard, economic standardisation of reference for police across London and their incorporation into the helicopters was a foregone conclusion which had been accepted by the earlier trial. That did not mean that the army had either to love them or put up with them! Their existence led to inexperienced ground units directing the helicopters by way of street names rather than useful terms such as "…. 800 yards north-west of ….", and failing to grasp that the lorry with the red cab, silver box van and white roof was not a red lorry to the airmen flying overhead. It was disconcerting for military pilots. They were used to a very different way of operating which centred around their own needs as both pilot and navigator. It was not long before a system was devised whereby the information was transferred to the more familiar co-ordinates of the military one-inch flying map. Time was to prove the original police system the better course in a multi-member crew undertaking the law enforcement role.

In a scenario that was clearly blighted, friction also arose over the worth of the police radio network. The army considered it slow because of a lack of direct communication, and hindered by

the huge numbers of relatively untrained police officers involved in the day to day operations. From the Metropolitan Police point of viewpoint, it was difficult, largely pointless, to train many thousands of officers in helicopter co-ordination for an experiment scheduled to last for just one month.

In 1967 every officer had access to direct radio communication with the progressive introduction of personal radio equipment. Such were the numbers involved in a force over 25,000 strong that there was never any general policy in specific training for every police officer in personal radio use - let alone air to ground co-operation. Radio telephony operators in cars and vans continued to be methodically trained at length, but no one ever addressed the correct use of personal radios in an official structured course. Comprehensive air waves "training" was an activity only expressed as assurances to the regulatory authorities by very senior police officers, not something actually undertaken by those handed the equipment to use! To the police on the streets of London, the evolution of good practice was learned by example - or not at all.

Overall Peeler I demonstrated a few successes, but continued difficulties blighted it. Researching the episode has attracted mixed reactions, some participants refuse to discuss it, many deny vehemently that there were any difficulties. A few have expressed a conscious wish to forget the whole experience. The Home Office final report recognised a catalogue of operational and social difficulties and specifically excluded the Woolwich trial data from its deliberations.

Even as the Metropolitan Police attachment was underway, meetings were being held in other parts of the country as others prepared for their section of the trials. At Stafford Police HQ on November 28 a meeting was underway between representatives of the four police forces involved in the next phase, Aerial Peeler II. The forces involved, Birmingham City, Staffordshire and Stoke-on-Trent, West Mercia and West Midlands were finalising details with the Home Office and the landlords for their proposed temporary base, the RAF at Cosford. The weather had taken a hand in disrupting even this meeting. An Army representative due in from Netheravon, probably McNich, failed to make an appearance due to the conditions.

After advertising in the magazine *Police Review* early in the year, in December 1967 the University of Keele ran a course for police photographers on the interpretation of aerial photographs. Each of the forces involved in the first AAC trial, plus Gwent and Durham, sent representatives. The Metropolitan Police sent civilian staff photographers, Jones and Creer, rather than police officers. The five day residential course cost a total of £13.10s.[£13.50p] each - including one shilling [5p] to cover temporary membership of the local Students Union!

This was another area of change in the UK police. In a cost cutting measure few police officers were to be employed in a range of specialist roles in the future, one area of change was that of dedicated photographer. Coincidentally, the growth of air support was to represent a reversal in this trend, placing cameras back into the hands of police - although the processing role was to remain in the hands of civilian staff until the arrival of digital photography in the late 1990s.

From January 2 - 5 the Metropolitan Police sent three sergeants to RAF Cosford to assist in the induction of police observers involved in the next phase of Aerial Peeler. Situated between Telford and Wolverhampton, Shropshire, Cosford housed 2 School of Technical Training and provided a large under used airfield for the police helicopters to operate from. Accompanied by Ch. Supt. Rignall, the three sergeants [including Derek Saint] were guests of the Staffordshire Police.

The landing of the three Sioux helicopters at Cosford coincided with the arrival of the London party. Under the command of Captain John Hordern, the military had spent the previous day, New Year's Day, at the Stafford Police HQ with a number of police personnel from the various Information Room's, involved with a briefing and introductory training for their expected police role. This phase had lasted two days. A Press presentation was arranged for January 3 with operations scheduled to continue until January 31.

Although many of the same logistic difficulties remained, different personalities resulted in this

being a far happier period for all concerned than the second London visit had proven. The RAF Cosford based trial was undertaken by the Air Platoon of the 1st. Battalion Royal Northumberland Fusiliers but, as in the previous trial, the pilots were drawn from three different regiments. There were three military pilots and four local police observers. The pilots were Hordern, Sergeant Rod Mullen from REME and Sergeant John Maskell who wore the badge of the Royal Anglian Regiment. All the police observers were inspector or above in rank. Derek Griffiths from Staffordshire, Mike Collins West Midlands, Harry Rodgers Birmingham City and finally, George Chesworth, from West Mercia who was the sole Chief Inspector in the police flight team.

The effects of winter beset Aerial Peeler II also. During the helicopters stay at Cosford the weather induced conditions varied between laying or drifting snow after freezing blizzards on the bad days and widespread flooding on the better days. Fortunately, each of these variations allowed the more important operations to take place. An added complication to flight planning presented itself by way of regulations introduced by a government ministry entirely alien to aviators.

In spite of the difficult weather there were Ministry of Agriculture animal movement restriction orders in force to control an outbreak of foot and mouth disease in cattle in the locality. One chore that was forced upon the pilots was the decontamination of the Sioux after each mission. At Cosford, immediately prior to the return landing, and in the hover, the landing skids of the helicopter had to be dipped onto a pile of sandbagging soaked in disinfectant. Elsewhere in the restricted area it was often a requirement that they did not land except in dire emergency; where necessary the observers and passengers had to disembark from a low hover.

The Sioux were temporarily fitted with 10 channel Pye Vanguard wireless sets capable of communication with each of the separate forces on the then current AM system. Special arrangements had to be made to integrate with Birmingham's newer FM equipment. In Stafford, personal radio sets, then still a novelty being slowly introduced to UK police countrywide, were available to the aircrew as an alternative means of communication. The multitude of different AM frequencies already in use meant that the addition of personal radios was a pointless further complication and they were not generally adopted.

Creature comforts for the crews during the operational day, 0800-1600 hrs, were provided by the Sergeant's and Officer's Mess' at Cosford. The police crews had sufficient status to make use of the latter, complete with their own personal mess bill at the end of the month. Accommodation was provided at the Stafford Police HQ. Although the Home Office met the operational costs, each individual force was obliged to meet the cost of its own men and any entertainment costs.

The attachment started with train crashes. On Friday January 5, a minor railway incident resulted in Captain Hordern and Inspector Rodgers flying over the scene and returning to Cosford after only a 10 minute flight. The following day the helicopters were called out to deal with a far more serious railway crash at Hixon, east of Stafford.

The 1130 Inter-City express train from Manchester to London ploughed into an fully loaded oversize 20 axle low loader road transporter stuck in its path. Travelling from a nearby English Electric Co. Depot situated on the former RAF Hixon airfield beside the line to the main road the 148 ft long transporter was making use of one of the recently introduced automatic half barrier level crossing's when it ground to a halt when the bed of it "bellied" on the line. Fearing that the clearances were meagre the two tractor units, one pulling and one pushing, had slowed to 2mph in order that it could be walked across with men checking the clearances from the load to the 25Kv overhead power-lines. It, then became entangled in the closing barrier system.

The crossing system, copied from European practice, was a measure to reduce railway manpower by removing manned crossings. In spite of explanatory signs, this type of crossing was so unusual and alien to the British psyche that no-one knew what to do under the circumstances and, critically, they failed to make use of the provided telephone before they started across. As a result the local signalman was unaware they were there and they found themselves powerless when, with the crossing warning lights flashing and a jammed load, they saw the approaching

passenger train bearing down on them.

Under normal circumstances, even at 80mph, such an encounter between a railway train and a road vehicle might have had little dire effect upon the electric locomotive drawing the twelve coach train. Unfortunately, the outsize transporter was on its return journey over the crossing when it became stuck and it was now loaded with the dead-weight of a heavy electricity transformer. When it struck it, at 1230hrs, the obstruction represented an immovable 130 tons. Of the 250 passengers and crew aboard the express, eleven received fatal injuries as the new locomotive and leading carriages telescoped under the impact.

In spite of its own tremendous weight, in the impact the transformer was flung from the remains of the low loader over thirty feet through the air. Eight of the coaches were forced off the rails, the shattered locomotive and the first four coaches travelled ninety feet beyond the crossing before crashing off the tracks into adjoining fields.

All three of the Cosford based Sioux were called to the snow covered disaster site. Sergeant Mullen and Ch. Insp. Chesworth were initially despatched to report on conditions as the first responding police unit to arrive on scene. Arriving about eighteen minutes after the crash, after a brief over-flight the various emergency services control rooms were receiving detailed assessments of the seriousness, likely casualty rates, best access routes and rescue appliance requirements just three minutes later. In these circumstances the damage assessment aspects of prior CD War Duties Observer training paid off.

The results of the concise report sent Capt. Hordern and Insp. Rodgers to Staffordshire General Infirmary with the intention of transporting medical teams to Hixon. Two landing sites presented themselves at the hospital, the closest being coal yard. The coal yard was quickly discounted when reconnaissance showed that two substantial walls lay between it and the hospital. The alternative site was a garage forecourt across the road from the hospital entrance. The police observers disembarked at the crash site to allow two passenger seats to be offered for each sortie from the hospital. Naturally passenger briefing was minimal. The hospital was close to Hixon, a journey by road would have only taken some twelve minutes in good weather, a figure reduced to five by the helicopter flight in icy conditions that were not conducive to brisk road travel.

Hopes that many of the casualties might be taken to hospital by helicopter were dashed by the weather conditions. Even if the external wire basket type casualty litter were hastily fitted the extreme cold would have resulted in hypothermia being added to the patients problems. In addition to the dead and those suffering minor injuries there were forty-two seriously injured survivors.

The efforts of the helicopter were not the only air effort put into rescue at the scene of the crash. A light aircraft passing over the wreck immediately after the crash alighted at the adjoining disused airfield in order that the pilot could offer his services. As the AAC Sioux could undertake the task with greater efficiency the offer was declined.

Some hours later, as the scene was being cleared up, the helicopters were used to plot a cross country route for a large National Coal Board mobile road crane from a nearby mine to the Hixon airfield crossing avoiding the multitude of sightseers cars now blocking the roads. Although the task was efficiently carried out, the crews found that there was as much difficulty caused to them by increased air traffic serving the photographers of the press as there was to the crane by surface traffic! Intrusion by the media was to be a never ending problem encountered by police on an international scale.

A follow up to this, the only unscheduled major incident to be dealt with in the AAC series of trials, was an expression of interest in the future by the local hospital board. This section of the National Health Service realised that police helicopters might provide them with a speedy means of getting vital supplies and personnel to and from major incidents. This stirring of curiosity was further underlined by the use of the police helicopters in transferring blood supplies to the affected hospitals. Three days after the crash, continued poor road conditions in the icy cold weather

brought a request to Cosford for the urgent movement of blood from Birmingham to Stafford. Within the NHS, it was one of the first clearly recorded reactions to an operational demonstration of the benefits that might accrue from setting up a helicopter based emergency medical service [EMS].

Even allowing for the extenuating circumstances, unfamiliarity with the type of crossing, the removal contractors and two escorting police officers in a patrol car were rightly blamed for the accident. As a result of this hard learned lesson, procedures allied to the safe use of the unmanned type of crossing were highlighted and in future all concerned could not claim ignorance.

By comparison with the events at Hixon, the rest of the stay at Cosford was an anti-climax. Scheduled duties undertaking traffic observation over the crowds attending football matches at Wolverhampton Wanderers and Aston Villa had been displaced by flights connected with the rail crash, later matches at these and other grounds were covered.

Kenneth Clark, the Bristol policeman with the Regional Crime squad, flew with the Cosford operation to assist in a fruitless search for a missing 15 year old Gloucester girl, Mary Bastholm. The search for her took up two days use of one machine that month. Gloucestershire was the only force to “intrude” upon the planned participant forces involved in Peeler II.

Naturally, a primary purpose behind the selection of police observers from each of the areas covered by the helicopters was to inject some local knowledge into the proceedings. With the lion’s share of all calls going to Staffordshire and West Midlands, clearly it was not possible to ensure that the respective observers were restricted to operations in their own area. In retrospect it was found that it was rare for the observers to operate over their own force area when responding to emergency calls. All calls were responded to on an aircraft and crew availability basis.

The trial could boast some clear instances of indirect arrests, the most tangible evidence of worth, being made by the helicopters. One crew called to Besford Court, Worcestershire, where a break-in and entry had taken place, large quantities of valuables being removed. West Mercia’s Chesworth, operating over home ground, noticed an area of down-trodden grass which led to a lane adjoining the estate. Reporting his sighting to one of the searchers at ground level resulted in the quick arrest of the burglar.

Wry humour naturally invaded the proceedings from time to time, occasionally the humour grew out of a far from funny incident. A classic example of the all British “cock-up” took place on January 29. Capt. Hordern was airborne with Insp. Griffiths [Staffordshire] on scheduled exercises with ground units involved with the observation and tailing of a motor van “known to be carrying stolen goods”. The exercise was pre-planned and it had been ascertained that the route would not require the helicopter to stray into any commercial flight path.

Whilst on task, Hordern’s Sioux was diverted to deal with a real incident after two Cheshire policemen were attacked by the occupants of a stolen lorry on the M6 near the Staffordshire border at Barthomley. The two officers were set about with pick-axe handles and the subsequent air and ground search managed to trace and arrest one of the assailants.

One of the reserve helicopters, that flown by Sgt. Mullen, was immediately called in to replace Hordern on the exercise, just as the suspect vehicle was starting to move off. Unfortunately, as it was never envisaged that the scenario would affect him, Mullen had not been briefed about the true nature of the task being undertaken by Hordern. With the replacement air crew ignorant of the true worth of the R/T traffic the van continued into Birmingham with Mullen’s Sioux hard on its heels. The tailing police cars reported that they had lost contact with the van after about twenty minutes, a development which increased the tenacity of the airmen not to lose the target. In the meantime the ATC operators at Birmingham Airport were getting hot under the collar about the slow moving trace on their radar screens as it dodged and darted about their restricted airspace, oblivious to the furore.

A credit to the service, Mullen followed the suspect van to its destination and returned to base with a bare minimum of fuel remaining, still totally unaware of the exercise or of the disturbance he had caused at the airport. The matter of airspace infringement was smoothed over with the airport. They had managed admirably in spite of the intrusion.

The final two days were taken up with ad-hoc helicopter familiarisation for a variety of police officers, the helicopters being returned to their depot on February 1. Although this was the last occasion in which the three pilots were to be involved in a scheduled police co-operation exercise, three weeks later during the Whitsun Bank Holiday weekend, Sgt. Mullen was called in to assist the police with a murder in the east of England after the RAF declared themselves unable to assist.

On February 21, four Midland police officers travelled north to Scotland to assist with the commencement of the next section of the trials - Aerial Peeler III. Until March 20 a joint police - AAC flight was again stationed with the RAF. On this occasion the location was RAF Kinloss alongside the Moray Firth not far from Elgin, Grampian. The remote east coast airfield was usually only the home for the RAF's vintage anti-submarine warfare aircraft, four engine Avro Shackleton MR3s.

It was decided to make exclusive use of the Westland Scout in the Scottish section of the trials, police opting to transfer all their assigned turbine [Scout or Alouette] hours to this single location. As the Sioux required a ten minute warm up time and had an operational speed of 60 mph, giving an effective radius of action of 25 miles, it was thought that the Scout, with a zero warm up time and a speed of 120 mph, should produce an effective radius of 70 miles. For the purposes of the trial period this range was reduced to a notional 50 miles from Kinloss. There were no insuperable technical reasons for this figure being set, but greater distances would have required the provision of additional refuelling facilities. Kinloss was 12 miles from the nearest town of any size, the 27 miles from Inverness representing middle distance. Many flights might involve medium altitude missions into the, still winter ravaged, Highland region.

Three Scout helicopters involved were XR595, XR597 and XR639. All three aircraft were finished in the standard military camouflage colour scheme, each aircraft carrying special markings in the form of three checker pattern panels [3 by 9 -27 in all] placed on the upper nose and on each of the rear doors. An adhesive Police sign was situated below the nose. The choice of the checker panel was clearly a reflection of the identifying band on Scots officers headwear at the time. English police only followed suit with this style later, in the 1970s. A DHC2 Beaver AL1, XP817, was also used. Although it was never envisaged that the fixed wing aircraft would perform duties relating to anything more than collecting the mail and bringing in the spares, Major Wastie alone logged almost 30 hours flying time in this Beaver over Scotland. In spite of the stated aim of the trial being that of police helicopter operations, a dozen or more hours of Beaver flight time were consumed in undertaking direct police operations during times when the Scout's were grounded by bad weather or servicing needs. For all the Scout's attributes, in this period the single Nimbus engine powering it had a tendency to be unreliable and the Scout could not have been permitted to undertake extensive use over urban areas.

Police forces involved with this section of Aerial Peeler were Inverness Burgh, Inverness County, Ross and Sutherland and Scottish North Eastern Counties, none of which was to retain its identity for long in the continuing police amalgamations.

The Scottish task was allotted to 10 Flight, normally based at Carter Barracks, Bulford, Wiltshire. Four pilots were eventually directly involved in flying the Westland Scout AH1 helicopters in the support mission. Major Maurice Taylor [Lancashire Fusiliers], Captain Jerry Jones [Royal Corps of Transport], Ronnie Matthews [Duke of Edinburgh's Regiments] and, lastly, Lt. Norman Overy. Matthews replaced Overy early in March after the Lieutenant was posted elsewhere. Major Charles Wastie, Captain's Paul Lyle and David Dance shared their time between police flight support and local military requirements using a DHC2 Beaver AL1. To this mixed band of military men Aerial Peeler III became affectionately known as "The Peeping Police Saga". Their compatriots were four observers provided by the local police - each held the rank of inspector to ensure

use of the Kinloss Officers Mess although one of their number was actually a sergeant. Charles Rhoden, Murdoch ["Murdo"] McLeod, Charles Inglis and Dick Young, the sergeant. Under normal circumstances police sergeants and constables are only "worthy" of accommodation in the Sergeants Mess.

Also in the police party was Superintendent Alec Findlay, in overall command, and acting as the controller of operations, with a sergeant and two constables manning the Kinloss Control Room in part of a hanger set aside for the helicopter operations between 0830 and 1800hrs. The Scottish North Eastern Counties Control Room at Bucksburn acted as main control for the period of the trial. The junior policemen involved in the operation were accommodated [as befitted their status] in the Sergeants Mess.

At 1000hrs on Saturday February 17, 1968, the police observers and operations room staff reported at Kinloss to be introduced to the intricacies of helicopters by the military and the police from the Cosford operation. Unlike the personnel with the English forces, some of the would be Scots observers had never flown before. It was only after their first "acclimatisation" flight that morning that it was known whether they would be either scared out of their wits or air sick. None were. An introduction to aerial map reading followed.

As had been found in the Aerial Peeler 1 operation, in this period map reading , and other tasks that might be assumed to be part of an AAC observers duties, were usually undertaken by the pilot alone [hence the perceived importance of the "right" maps in London]. At the time military observers were merely untrained supernumeraries, so the initial lack of experience displayed by the Scots police officers was of little importance.

On the Sunday the hands on training continued, this time in front of members of the press and television. The following two days were split between learning the basics of the ground crews job from Norman Overy and being lectured by a number of knowledgeable figures. Among this latter group was Supt. Hugh Fraser who had replaced Rignell as the Home Office co-ordinator.

Even as the unit worked up with training flights the action started. On the morning of Wednesday February 21, a Scout with Captain Jones and Inspector Macleod was diverted to look for a stolen Land Rover near the Bridge of Don. Although it was already "blooded" the official inauguration ceremony took place at 1430hrs that afternoon in the presence of each of the chief constables and various officials. The ceremony was barely started when the first major call took a crew away.

Co-incidentally this first major call for the operation related to a railway accident. The presence of the Scout and its crew was required to undertake a casualty evacuation at the site of a collision between a goods train and a motor van at an unmanned level crossing at Dalreoch in Moray, not far from Aviemore.

A child of four, Peter Anderson from Grantown, was killed in this incident but thankfully the driver of the van was only seriously injured. Alan Morrison, the local butcher, was quickly whisked from the chill conditions of the Scottish winter to the warmth of an Inverness hospital. An aspect of this collision that made it all the more ironic was that the train, running two hours late, was the only scheduled daily traffic still using that section of, since closed, railway line.

On Thursday February 22 a Scout flown by Major Taylor was called out from Kinloss to undertake a trip to take a detective to the village of Applecross on the west coast to investigate a major theft. The policeman was picked up from the police HQ at Inverness for flight to the remote village. Although a great deal of time was saved by this sixty mile flight, it did strain the economics somewhat if "ordinary" crime investigations were ever intended to be the subject of regular helicopter use.

While attending the prime cause for their presence another theft was disclosed. It transpired that the new theft was of 2,000 gallons of heating oil at a guest house run by two ladies. Only deliv-

ered the day before, the loss was naturally very distressing for them.

The investigating team were led around to the scene of the crime and were duly shown the gauge on the tank set resolutely at empty. The detective, well versed with the workings of heating oil tanks, flicked a switch and “refilled” the tank in an instant. The crime thus conclusively “solved”, the helicopter team were sat down to an example of Scots hospitality with tea and muffins. It was then back on board the Scout and, once up and away, it was all they could do to stop falling out of the sky with laughter.

During their attachment at Kinloss the army crews were royally entertained by friendly gamekeepers and fishermen (some of whom were to be the subject of their search activities) topped off with agreeable visits to numerous distilleries. None quite reached the peak attained by the muffin saga at Applecross.

The next Sunday, a crew consisting of Major Taylor and Inspector’s Macleod and Young were called to search for a missing old man of 85, James Robertson. Missing from his daughters home in Forres, near Kinloss, since the previous day, and in spite of reports of his disappearance being delayed, the helicopter crew found him within 20 minutes of take-off. Asleep in a clearing of the vast Culbin Forest and suffering from exposure, he was swiftly transported to the hospital in Forres.

A further hospital trip turned out to be partly false alarm. The reason given for the call out - a pregnant woman in labour - turned out to be untrue. Although the woman was found not to be with child she was indeed very sick and requiring airlifting from a snow bound lodge near the Aviemore resort to hospital. There were two major mountain rescue missions undertaken by the helicopter crews in the period of the trials, both incidents were to the highest mountain in the British Isles, the 4,406 foot [1,343 metre] Ben Nevis near Fort William in the West of Scotland. The location, at 95 road miles from Kinloss, was above the upper limit of the Scout.

The first of these rescue missions started during the early hours on March 7. Three mountain rescue teams were called out from Lochaber, Kinloss and Lossiemouth to look for two missing Yorkshiremen on the north face of the mountain. Involving over thirty members of the ground based rescue teams and spanning over 11 hours, the task was quickly concluded by the flight of a police unit Scout at 11am. Pilot, Captain Matthews, Insp. Macleod and two passengers from the ground teams located the men within three quarters of an hour. It transpired that the two had got lost and had correctly bedded down for the night in the safety of a snow hole as the rescue teams risked their own lives searching for them.

The second incident, on March 16, was more serious for the climbers, one of whom had suffered a fractured upper leg late in the afternoon during a snow storm. Once alerted and called in, the Scout arrived and lifted the injured climber, from a precarious position on a ridge straight to hospital, just as the light was fading. In this instance the police observer was temporarily displaced by a local constable, Angus Macdonald, to give the pilot access to a greater depth of local knowledge in inhospitable surroundings. The two operations clearly underlined the value of air search in quickly locating subjects in treacherous conditions, as well as the potential value of helicopter extraction to hospital.

A liaison visit to the Isle of Skye on March 15 served to demonstrate to the local chief constable of Invernesshire just how much of his valuable time could be saved by the use of air travel. In a matter of three hours the chief officer was able to visit all the stations it normally took two days to see by a variety of ground based transportation.

Somewhat less impressed was Mr. Norman Buchan, Joint Under Secretary of State for Scotland. After visiting the police and 10 Flight operations at Kinloss, his party set off in a pair of Scout’s for Aberdeen, only to encounter a snow storm which forced them to abandon the trip and set down. The rest of the journey was completed by police car.

Aside from the affects of the weather, the mechanical serviceability of the Scout helicopters, the 132 Flight Beaver and the all important Pye multi-channel radios, was excellent - but not perfect, throughout the trial period. A total of 52 sorties, involving a total time of 64 hours, 15 minutes flight time, were recorded.

I never did find out why they called Aerial Peeler III the "The Peeping Police Saga". On that subject the few former members I managed to trace maintained firmly sealed lips, and a hint of a smile.

The Westland Scout only saw limited use on the world scene, its sea going cousin the Wasp having greater success in finding foreign buyers. The British AAC were to use the type on a number of further police related operations including a number in Scotland and in the British Colony of Hong Kong. The Uganda Police Air Wing went one stage further in that they purchased two examples of the Scout for police use around the time of the Scottish trial. These Ugandan examples do not appear to have survived for very long, both supposedly expiring in accidents. One of the pair was reportedly written off during December 1969.

The final episode in the series, Aerial Peeler IV, ran from June 19 to July 17. The flying was undertaken by the Air Platoon, 2nd Battalion, Parachute Regiment, temporarily based at the Welch Brigade Depot, Cwrt-y-Gollen, Crickhowell, in the Brecon Beacons. In the recently created county of Dyfed-Powys, the camp was a few miles from Abergavenny, Gwent. The police forces involved were the Welsh forces of Cardiff, Dyfed-Powys, Glamorgan, Gwent, Methyr Tydfil and Swansea. In addition two English forces were to join in - Gloucestershire and West Mercia.

The AAC pilots assigned were Capt. Tim Toyne-Sewell of the Kings Own Scottish Borderers and sergeants Norman Collins and John Balls of 2 Para. The latter was to reappear as a pilot working for Police Aviation Services and a number of police forces in the 1990s. Six police, not quite one from each force, acted as observers. The Welsh officers were Chief Inspector Fred Thomas [Glamorgan] Inspector's Frank Hedon [Gwent], Tom Holder [Glamorgan] and W J R "John" Edwards [Dyfed-Powys]. The two English officers were Inspector Keith Sallis from Gloucestershire and Chief Inspector George Chesworth [West Mercia].

Chesworth, who's wartime exploits in Lancaster bombers' had gained him a DFC prior to his return to the then Worcestershire Constabulary, and subsequent flying with the CD scheme, was to retire part way through Aerial Peeler IV. Aged 55 years with 31½ years in the police, his invaluable knowledge was not to be immediately wasted. Although he had reached the age limit for further service in the regular police his services were retained for a while longer by the simple expedient of swearing "Mr. Chesworth" in as a member of the Special Constabulary.

One hundred and seventy eight operations, few of which were to require a single dedicated flight, were requested by the eight primary forces, British Transport Police [BTP], a Regional Crime Squad [RCS] and Hampshire Constabulary. Of this total of requests forty-four were declined for a variety of reasons, mainly excess distance or unsuitability. The Gwent Police area, with sixty eight of the total, drew most requests.

The three additional agencies involved drew a single operation each. A railway train escort of a valuable post office load for BTP was one of a number of high value load escorts undertaken, but the only one scheduled. The RCS sortie was to take covert photographs whilst that for Hampshire was to cover the homecoming of another, soon to be knighted, round the world solo mariner - Alec Rose.

Like the Cosford operations, this trial could boast some clear instances of indirect arrests being made by the helicopters. An area containment around extensive woodland on July 24 enabled foot units to search in the certain knowledge that their quarry was unable to escape. The two men arrested in the woodland as a direct result of this containment re-enforced a long known fact of life criminals were now having to face up to in the presence of growing police air power - arrest was becoming a certain consequence.

One of four missing person tasks undertaken for the police in Gwent resulted in a clear demonstration of time saving offered by aerial observation. The unit had been called to the scene of a suspected suicide by ground units that had found an abandoned car on the edge of a reservoir. A sergeant and constable had been dragging the waters fruitlessly for some hours in an effort at snagging the missing body. By chance, as the helicopter approached from up sun the different aspect on the scene resulted in the body being clearly be seen, immersed and lodged under a cavity in the banks of the reservoir. Re-directed, it only took the officers a matter of minutes to bring the body to dry land.

There were four unusual tasks undertaken in the period. In one instance, on June 27, the body of a dead man was transported from the scene of a car accident at Llanetherine near Abergavenny to a mortuary. As the Sioux were not fitted with stretcher litters [the police radio box was fitted to the litter mounting point] the corpse had to be carried on one of the seats to meet up with a stretcher party on the ground.

There were two minor instances of rescue, one the finding of a small boat in difficulties off the South Wales coast and the other the rescue of an exhausted man from the Brecon Beacons. These operations may well have been minor in themselves, but to the rescued persons each naturally took on a disproportionate magnitude.

One further operation that could never have been catered for was the transportation of dentures! On July 6 the helicopter unit were requested to attend the scene of a road accident in Gwent. The accident had already been dealt with efficiently by police and a road ambulance, the injured party having already arrived in hospital suffering from a severely smashed jaw already lay on the operating table as surgeons fought to repair the damage. The helicopter was despatched to collect a set of false teeth from the site. The injured party's dental plates were to provide a perfect splint for the damaged mouth area.

This fourth Peeler trial coincided with the Investiture of Charles as Prince of Wales and the threat of sabotage to the water pipelines serving England by Welsh Nationalist extremists. The combination of the two allowed the Peeler helicopter crews to covertly undertake a number of sorties against the Nationalists which the majority of the media connected to the preparations for the Investiture. Following a pipeline explosion in late June the reporters of the *Western Mail* managed to breach the carefully crafted cover story the following Monday, July 1. The story accurately claimed that the Clywedog Dam in Montgomeryshire and the water pipeline from the Elan Valley to Birmingham were been patrolled by an officer from Dyfed-Powys, the pilot was Captain Toyne -Sewell and Insp. Edwards was observer. In an effort designed to reclaim secrecy the press were invited to visit. The open door ploy received a mixed reception, some newspapers were clearly diverted from the pipelines towards the Investiture, but most mentioned them.

A further major Army co-operation took place in 1969. On June 12 "Operation Waterguard" was set up to involved the police in Cheshire, West Mercia and Dyfed-Powys. The air element, three Sioux, was supplied by the Air Troop of 49th. Field Regiment, Royal Artillery, with four pilots led by Captain Roger Vaughan, Lt.'s. Richard Adams, Chris Mutton and Chris Goode. The police element was provided by six observers, two each from the three participating police forces. Still operational was West Mercia's George Chesworth.

Home for the military men was a tented encampment at an abandoned army ammunition dump at Nescliffe, Shropshire. Thankfully, for most of them were by no means as youthful as their rugged military compatriots, each of the policemen was found a bed in comfortable hotels nearby.

"Operation Waterguard" operations were just as secret as the limited number flights undertaken in Peeler the previous year, but this time there was no Investiture to provide a smokescreen. Fortunately, after two years, the media were now increasingly disinterested in stories surrounding the AAC supplying the police with helicopters.

Further evidence that the negative attitudes towards police co-operation prevailing in some sections of the AAC were isolated instances came to light twice in 1969. On May 27 a police officer with the Thames Valley police was assaulted by a man he had just arrested at Bullington, Hants, and a police van stolen. As this incident took place in the military heartland a Sioux was quickly and easily called in to assist with the police searching. On June 6 a Captain Scott was called in to fly Det. Insp. Baker in the vicinity of the River Itchen to look for a missing girl. The majority of those directly involved in flying with the AAC were enthusiastic to a degree beyond the finances that might be made available to police forces in the near future. In the face of high hire charges, ad-hoc use of the AAC Sioux fleet continued for as many years as the military operated the type.

Due to a case of misinterpretation, final Home Office reports based upon the information and statistics produced by the trials, although intended to be positive, were to be remembered as proclaiming failure. Statistics appearing in the subsequently published Home Office reports appeared to highlight average times of 1 hour 36 minutes, or far longer, to arrive at calls. The quoted times were misunderstood and taken out of context in later years by other writers, once the error was made it was repeated regularly. The real intention of the figures was to suggest that an hour and a half, or longer, was the mean average time spent on each assignment - a quite acceptable correlation. This erroneous negative report resulted in the Army trials being written off as a failure only months after they were over. Fuelled by the error, in some sections of the police the Bell 47G was cited as having inherent shortcomings, the ten minute warm up time prior to take-off, lack of power and slow transit times, allied to poor operating practices. The comparatively poor performance characteristics of the Bell did not stop many forces from using it in later years. The Metropolitan Police were still using civil examples successfully for a further decade, fully twenty years after that, fifty years after its first flight, it remained in law enforcement use across the world.

On September 3, 1969 continued experimentation with helicopters resulted in one chief police officer paying a heavy price for his curiosity. Chief Constable William Kerr of Dumbarton, west of the city of Glasgow, then a small separate police force with a few over 500 men and civilian staff on its strength, undertook a trial flight in company with his assistant, David McNee.

The force was provided with a free demonstration in a civil Agusta-Bell JetRanger, G-AWRV, from Edinburgh. The flight took place off the lawns in the grounds of the Force HQ, this being a part of the County Hall complex. Kerr and McNee flew out to the west, down the Clyde Estuary and across the First of Forth to the Isle of Arran, where it landed for lunch. The return flight was via Loch Lomond with a landing on the island of Inchmurrin in the middle of the loch.

The helicopter returned to the lawn at the HQ the pilot, John Keepe, set it down and commenced the shut down procedure, fully expecting his passengers to remain in their seats as briefed. Kerr unexpectedly got up from his seat and left the cabin before the rotors had stopped turning. Unfamiliar with aircraft, and helicopters in particular, Kerr turned to the rear of the machine and, before anyone could stop him, walked into the still spinning blades of the tail rotor, directly linked to the main rotor the impact caused horrendous injuries and major damage. Still concentrating on the shut down procedures, the pilot was suddenly aware of a sudden vibration which caused him to brake the rotors immediately, but both the main and tail rotors were snapped.

Chief Constable Keepe, struck down with grievous injuries to the head and right arm, the 61 year old was lucky to survive. David McNee was the first to him. Fortunately among the watching crowd were a doctor and a nurse. The combined efforts of the trained pair and other bystanders was sufficient to stem the flow of blood and ultimately save his life. Once in the Vale of Leven Hospital, speedy action saved Kerr's right arm, but was ultimately unable to avert the loss of the right eye.

The subsequent police investigation into the accident was led by Supt. Pat Hamill, an officer later to succeed David McNee as Chief Constable at Strathclyde. Kerr was absent for many months as his injuries healed. Nonetheless he returned, fairly briefly, to again take charge of the Dumbarton Force from McNee prior to his retirement, an event which coincided with the amalgama-

tion of the small police force into Strathclyde.

CHAPTER TEN

Full time operations begin in Britain

Although there were others upon which to model themselves the roots of full time police aviation in Britain lie in the United States. The Los Angeles County Sheriff's Office continued to operating the volunteer scheme into the post war years, it was 1955 before the unit acquired a Bell 47G helicopter of its own. The single Bell machine was added to in 1956 by a Cessna 182 fixed wing, some two years after New York had disposed of its last fixed wing aircraft. A further two examples of the Bell 47 were added to the fleet in 1958, these being involved in the widening of the search and rescue mission undertaken by the first.

In a contemporary overview of the role of the fleet in the early 1960s the LACS mission profile included a number of duties which would lie outside those expected of a typical modern policing role. In later years a number of these missions would spawn other air units such as that operated by the LA Fire Department.

Enforcement of the California Aeronautics Commission Act which parallels the Civil Air Regulations.
Forest and brush fire suppression.
Re-seeding of burned over watershed to prevent erosion damage and silt clogging of dams.
Search for and rescue of missing aircraft, boats and persons.
Protection of airports and privately owned aircraft against theft and damage.
Patrol and atmospheric measurement for Los Angeles Air Pollution Control District.
Transportation of county technicians and officials.
Photographic survey.
Capture of escaped prisoners and other criminals.
Delivery and posting of court orders in otherwise inaccessible areas.

In the period the Volunteer Reserve was still active and available. The full time operation had use of three Bell 47 helicopters, the Stinson L5 and a Cessna 182. In support of these aircraft were two trucks, a car, a trailer and an engineering machine shop with miscellaneous equipment. All of these resources were acquired at a capital cost of $160,000. Unit running costs were then a modest $75,000. To reduce the costs the LACS Aero Detail were said to be buying old military helicopters and cannibalising them for spares, thus predating a situation that was to lead to the massive growth in US law enforcement air resources a decade later. The soon to be disbanded Volunteer Reserve amounted to 100 members [including a number of professional test pilots] with fourteen helicopters and a number of fixed wing aircraft. Among the latter were number of fast twin engine types known to have been regularly used for prisoner transport.

By 1964 the Sheriff's fleet commenced regular patrols in the high desert areas of Antelope Valley and on Santa Catalina Island, off the coast. Because these early machines were severely range limited, and the areas to be patrolled so vast, it was usual for them to be transported to the locality of intended patrol in a road convoy with a supply of aviation fuel using the trucks and trailer.

In the meantime the Los Angeles Police Department [LAPD], the agency tasked with the policing of the city areas, also acquired a helicopter. In 1957 a Hiller UH-12C operated by the LAPD flew 775 hours in its first year of operation. This was not an anti-crime helicopter, the single machine

was primarily assigned to highway patrol and was to undertake this task alone for six years. Eventually two examples of the Bell 47 were acquired in 1963 and 1965. The fleet of three was cut when one of the Bell's was lost in an accident in 1966.

In mid-August 1966 a Los Angeles police patrol arrested a black man for drunken driving. Upon hearing of this relatively minor incident the mainly black inhabited Watts area of the city erupted into rioting. In spite of the hasty imposition of a curfew, many areas of Watts were burned and looted. In addition snipers took up roof-top vantage points and fired upon the hard pressed police. It was to be the worst example of race rioting in the post war period. More than two dozen died.

After the riots the LA Sheriff's Office co-operated with the Hughes Helicopter Company in a study of the use of helicopters in the direct support of police, effectively the creation of the anti-crime patrol. Hitherto most air operations had been directed toward traffic patrol, fire and rescue duties, most involvement in crime suppression being an adjunct to the primary purposes.

A series of day and night support operations were scheduled to cover the City of Lakewood under the title of Operation Sky Knight. The helicopters used were ten of the new Hughes 300/269B & C models, these being supported by the Bell 47Gs already in service with the Sheriff's Office and a smaller number of the larger Hughes 500. The flight crews were initially provided by the Sheriff.

In the face of a general 8% rise in crime figures, the scheme resulted in a localised drop of 11% in crime. The results were so impressive that a large number of US police forces acquired similar helicopters to operate in a manner similar to that evolved between the LACS and Hughes. In the meantime Sky Knight itself evolved and spread to other small communities in the vicinity to become a jointly funded multi-city operation.

For the Hughes Helicopter Company the public spirited marketing ploy worked very much in their favour. For the following 25 years one of the leading police helicopters was the Hughes 300 and its derivatives, the military TH-55 and the civil Schweizer S300S. The latter is still in production.

Although it has evolved as a separate entity from the LACS, the structure of the original Sky Knight remains in place over thirty years later. Lakewood now owns, maintains and administers the fleet [now Schweizer S300Cs] and supervises a complement of full-time and part-time pilots and deputy observers. Membership of the operation now includes Artesia, Bellflower, Cerritos, Hawaiian Gardens, Lakewood and Paramount. Each member is charged annual fees based upon the number of calls it has generated and the flight time involved.

Reflecting the growth in anti-crime air patrols undertaken by the LA Sheriff in the wake of Watts, the LAPD initiated a continuous patrol scheme to the skies of the city in 1969. To support the new initiative, known as ASTRO [Air Support to Regular Operations] further resources were added to the unit. In the early 1970s the fleet had grown to eleven aircraft and thirty one personnel.

As a result of the Watts factor the numbers of US police forces using aircraft was reckoned to have grown to a total of about sixty, these operating some one hundred machines of various types.

In January 1970, on the other side of the Atlantic Ocean, the London Metropolitan Police DAC Candy produced a report predicting the future for the B [Traffic] Department. Candy stated that in his opinion helicopters had no future for traffic purposes. Predictably after such a statement, on April 9, 1970, police air operations in the United Kingdom entered a new phase that included widespread traffic control use of rotary wing craft, albeit as a crime resource.

April 1970 marked the commencement of the so called Metropolitan Police "Emergency Helicopter Scheme". This desperate sounding title merely signifying that the uses were ad-hoc and that each hiring from a civil contractor was dependent upon an previously unforeseen need.

The first use under this scheme was a four hour long air search of the Lea Valley area of North East London for two missing school children. The pair, Susan Blatchford aged 11½ years and Garry Hanlon 12 years, were from Enfield Lock an urban sprawl adjoining the rural Lea Valley. The pair were reported missing on March 31, with fruitless ground searches being set up immediately. On April 9 the ground was again covered by an extensive ground search employing dogs.

The same day a Hughes 300 helicopter was brought in to undertake a search which covered the same area and an vast expanse of countryside to the north and east, not previously searched. The aerial search area stretched from the A406 North Circular Road in Edmonton in a narrow band up the valley of the Lea and then beyond the large reservoirs to the west of Sewardstone to Waltham Abbey and then onward to Epping Green in the Essex Police area. This narrow track then widened to encompass an area from the western fringes of Epping to the east of Broxbourne, Hertfordshire taking in the southern fringes of Harlow. On the way extensive searches of the surface of the reservoirs and other water courses were undertaken at a height of 15 feet. Nothing was found.

The bodies were eventually discovered accidentally by a local gamekeeper walking his dog late in June. The badly decomposed remains lay in Sewardstone, immediately to the east of the helicopter search area under the cover of extensive undergrowth in a substantial copse of trees. With the technology then available to the aerial searchers the helicopter would never have discovered them. Some disquiet was expressed by the families when it emerged that the site had been extensively searched by foot units with trained dogs. It was not the first nor the last example of dogs missing the seemingly obvious and it led to a far fetched suggestion that the bodies were brought back later - after all the search activity had passed.

To exacerbate declining public relations situation, the poor state of the bodies denied the scientists the chance to prove the pair were murdered. As a result there was only a brief investigation by some of the leading murder detectives of the time and a disbanding of the inquiry team. The case was never closed but neither was it open. In 1996 the file was again opened when it was linked to a figure with paedophile connections.

The helicopter used for this particular flight was a Hughes 300 supplied on hire from Air Gregory of Denham. It was crewed by a civilian pilot, Captain Sissons with Sergeant Derek Saint the observer. There were eight flights under the Emergency Helicopter Scheme in 1970, the total budget amounting to a meager £3,000. In addition to the 2/3 seat Hughes 300, provision was made to enable the hiring of larger types, typically the 5 seat turbine engine Hughes 500 or Sud Alouette. Only a single larger type hiring took place during the initial period. Such was the popularity of this new facility, mainly directed at missing person searches or murder inquiries, that a further £1,000 was needed to complete the financial year.

The second flight of the Metropolitan Police “Emergency” scheme, again a murder enquiry did not take place until mid-August, four months after the first, From that point onward barely a month passed without their being at least one hiring taking place. Contrary to the statement by Candy earlier in the year, in December the Hughes was used for a traffic control operation. In fairness the flight was prompted by an wholly unpredictable national power crisis which brought with it a street march and demonstration in Central London. The helicopter took off at dawn with Inspector Doughty as observer, with reports being transmitted directly into Chief Inspector Miller at the Traffic Control desk at Scotland Yard. The use of single engine helicopters remained severely restricted. Special clearance was sought to allow the over-flight of the built up area by the single engine machine. The hastily arranged operation was a complete success.

Based at Denham Aerodrome west of the capital, Air Gregory Ltd, were quoting hourly flying rates which reflected the size and capabilities of the machines and offer - as well as the cost of the pilots.

Hughes 300/269B	£27 ph.
Hughes 300/269C	£35 ph.
Hughes 500/369HE	£70 ph.
Sud Alouette II	£70 ph.

The company were also operating other helicopter types, including a five seat Brantly 305 they were offering for sale. As UK concessionaires for Hughes and Cessna they naturally tended to offer the Hughes for police use, resulting in the Alouette being used for police operations only rarely.

Providing a stark comparison with the commercial quotations, a letter from HQ Northern Command to the chief constables in the north of England on June 8, 1970 set out typical Army quotes for the hourly rate and standing charge.

Bell 47G Sioux	£42.17s. ph. + £101.17s per day
Westland Scout	£86.2s. ph. + £147.7s per day

The problem arose from “overheads”. Commercial operators quoted for the supply of a helicopter with pilot and a technical back up which might only consist of a single mechanic upon demand. When this formula was applied to an increasingly cost conscious military, the figure was distorted by the inclusion of the notional technical back up. Not only did the pilot and a mechanic or two enter equation, there were also the cooks, clerks, foot soldiers and a tank driver or two. It was considered that as the reason for the existence of the helicopter related directly to these administrative and active adjuncts they should be considered when undertaking costing.

As if these figures were not in themselves high enough, Army aircraft insurance via the commercial market was a problem. Insurance companies clearly did not like policemen flying in military aircraft. Quotes ranged from a minimum of £50 [a form of “no fly” retainer fee] to £1,000 for a single flight were exorbitant. The comparable Air Gregory quotes, using insurance from similar sources, already included an element of insurance. There is plenty of evidence that the problems raised by these hard financial facts were being regularly overcome by a number of county forces, including Devon & Cornwall, Gwent and Hampshire, in co-operation with their local army command. Many operations were provided free of charge on the slenderest of excuses. The only accepted manner in which such services might be provided free are emergency, CD or “aid to the civil power” training. Inevitably, coverage of the local football match lay outside their remit, but there was flexibility in the system.

On February 3, 1971 confirmation that the Metropolitan Police scheme was to continue was provided by the holding of a large scale training session involving both old and new observer candidates at Denham, Bucks. Pilots undertaking this series of short flights were Captain Bird and Captain Sissons of Air Gregory using a Hughes 300, G-AYLX. The four observers of the first scheme were now twelve. This select group were seconded from their normal duties for a part of any one year, thus allowing a fairly large cadre of observers to be maintained.

From this point on the police radio network call sign “India 99” [India - nine- nine] became widely used for Metropolitan Police helicopters. Based upon this lead use of the combination and subsequent media publicity, the digits “99” were to prove very popular with other police air units as they formed. Very few adopted the complete call-sign, most just the digits allied to a local letter combination. In the early days the call-sign was a closely guarded secret, with officers strictly forbidden to verbally connect the helicopter with the identifying sequence. Often officers would be hauled over the coals for letting slip the magic words during a transmission. It was extremely difficult to describe a scene on the ground to the orbiting helicopter without indicating that it was some sort of flying machine. It goes without saying that the call-sign passed from secret to open secret to public domain fairly quickly.

It may seem strange in a modern climate which at least suggests that the police openly publish coded call-signs, that they remain hidden. The candid front presented relates almost entirely to the radio identities of air units, there being a lesser tendency to ascribe correct unit identities to the call-signs relating to ground based sets for general public consumption. There is no rigid secrecy. With the notable exception of easily identified air units, misinformation has ensured that most media references to police radio call signs are spurious or merely incorrectly allocated.

In March 1971 experiments to improve the visibility of the signs attached to the hired helicopter were started in conjunction with the London operations. The evolution of the vehicle roof top markings was also continued.

The POLICE signs on the helicopter were manufactured in reflective material, a new develop-

ment that mirrored similar changes in the style and materials used for motor vehicle registration plates in the same period. Instead of black on white, the sign was blue on the reflective white, there were to be numerous variations. The earlier sign had, like those used previously on motor vehicles used white letters on a dark background.

The roof markings on road vehicles continued to evolve over a lengthy period. Such markings were, by the 1970s, not a new idea by any means. Various combinations of letters and numerals were stuck on the roof and boot panels of a select number of vehicles, initially those in the vicinity of Battersea Heliport. In the Spring of 1971 the blue Rover patrol cars at Battersea featured a white two letter combination based upon the local division [W] on the rear roof and a number on the boot.

Initial trials threw up all sorts of problems. Quickly removable lettering - suitable for marking the car with a call-sign related combination that would suit the area it was working in - was found to peel off at high speed. In a situation where the roof marking could not be transferable, strict adherence of the external markings to vehicle call-signs was also tried and found to be impractical. The first unscheduled breakdown wrecked the strategy. To change to call-sign to fit the roof marking would only serve to confuse a wider police audience as to the origin of the vehicle in territorial terms. Eventually is was decided that each vehicle in the fleet was to receive a unique roof code sequence that was available to the helicopter and repeated on a plaque inside the car as a reminder for the car crew.

Most police vehicles remained of a dark hue in those days, blue or black, generally only traffic cars were white. The roof markings were in a contrasting colour, black or white, depending upon the shade of the carrier vehicle. At the end of the decade London followed the county force led preference for most police vehicles to be white, by which time the most suitable letter combinations had hardened and black markings appeared with the orange spot proposed by Jack Dennett in the late 1950s.

Financial figures relating to the Metropolitan Police budget for helicopter use in the early years are somewhat confused. During the fourteen months from February 3, 1971 to March 31, 1972 the estimated budget was £4,000. This financial target appears to have been exceeded, the total spending on 34 operations undertaken in the six months between September 1970 and June 13, 1971 amounted to £4,201.61, an average of £123 for each operation. Coverage of the long standing assignment over the racing at Epsom in 1971 amounted to 19 hours spread over two days, this operation alone costing more than £500. Operations over Epsom were undertaken from a landing spot in one of the car parks, close to the traditional police presence at Tattenham Corner.

Initially the helicopters operated on a daily basis from the base airfield of the contractor. To assist the widening of helicopter use, landing spots were marked out at each of the police sports clubs on the outskirts of London, Imber Court Sports Ground, East Molesey, Surrey, Chigwell Hall, Chigwell, Essex, Bushey Sports Club, Hertfordshire and The Warren, Hayes, Kent. Most of these sites had been considered for use during the 1967 AAC trials. The use of Battersea Heliport on the bank of the River Thames was a necessary evil in that it was in the central area and had refuelling facilities.

Later sites to be used or considered included the Royal Victoria Dock, Canning Town, a site owned by the Port of London Authority. The design of new police buildings brought about consideration of roof top landing pads. A new police support services complex built at Lambeth in 1974 was surveyed but, whilst a helipad was structurally feasible, the project would have required the immediate acquisition of twin engine helicopters to enable operations to commence. The proposal was dropped. There was no general move to provide a roof top operating base in the central area.

It was not necessarily any easier to launch a helicopter unit in the USA. Although the police in New York had been successfully operating helicopters for over 20 years, and the LA Sheriff ten,

the police in Pasadena, California, were obliged to fight tooth and nail to convince those holding the local city council purse strings of the worth of acquiring helicopters. Even overcoming the financial hurdles only resulted in a series of verbal and legal battles with anti-noise campaigners. After three years of uphill progress, the operation finally came to fruition when two helicopters started operating over the Pasadena area in 1971.

Having placed before all the diverse, and often sceptical, bodies a wealth of positive statistical information which appeared to prove conclusively the benefits to be accrued from police helicopter operation, the initial results were desperately disappointing.

Contrary to expectation, during the first year of operations the crime rate spiralled upward by 25%. Analysis of operations revealed that the pair of helicopters had not been in the air for much of the time owing to routine maintenance and problems encountered whilst investigating a range of different working practices and patrol patterns. By 1973 increased flying time had been achieved, partly by the employment of a full-time mechanic to undertake routine servicing. Gratifyingly, the crime rate trends reversed. By 1975 Pasadena had a police heliport in operation and a fleet of three helicopters.

The situation in Australia was if anything more dire than that in Britain. Twenty years after the demise of the NSW Anson, none of the major law enforcement agencies were operating aircraft. In March 1973 Victoria State Police had tested a Bell 206B JetRanger, VH-AHV, for ten days of general police duty. NSW air support was restricted to gaining access to a Bell 47J Ranger, VH-DMR, operated on traffic duties by the NSW Department of Main Roads. A late 1974 suggestion that NSW might use three or four military helicopters operated by the army for a trial period of general police work was rejected by the then commissioner of police. The first reported resurgence in aircraft owned and operated by police in Australia was when South Australia and Queensland acquired fixed wing aircraft in 1975. The former purchased a six-seat Piper Seneca, VH-COP, for transportation duties and the latter the first of two four seat Cessna 180's, VH-PFT for spotter duties. Following on from these purchases, two years later Victoria purchased their first aircraft - choosing a fixed wing type, the Piper Navajo. It was to be another four years before the first helicopter appeared.

The acquisition of helicopters in NSW was a fraught occasion. In 1977 the legislature in NSW agreed the purchase of three examples of the Bell JetRanger, the first of which was handed over in 1979.

Far more controversial was the decision to buy a larger twin engine helicopter for Victoria in 1978. There was such an outcry from politicians and Bell Helicopter Australia when it was announced that the choice was a $1M Bolkow Bo105 that the whole deal was cancelled and thrown back into the melting pot. Belatedly tenders were requested from industry for a twin-engine helicopter type and the matter was re-assessed. Seven months later the same member of the Government of Victoria, the Premier R J Hamer, announced that an Aerospatiale AS365C Dauphin was to be ordered for the Police Air Wing. The $1.3M contract was signed in Melbourne in 1979.

The Lancashire Constabulary had continued its use of aircraft where the need was evident. Grand National race days continued to attract a police presence which varied from the use of the AA aircraft fleet to direct hiring. From September 4 - 9, 1971 an occasional local arts event entitled The Preston Guild was given helicopter coverage by contracting with Twyford Moors Ltd., Southampton which had already served its local Hampshire Constabulary. The helicopter used was a Hughes 300, probably the same machine [G-AVZC] as had undertaken the operations over that years 'National. A total of four or five hours traffic control was flown each day. Unfortunately the prior publicity warning of severe traffic congestion in the town and on the M6 was so effective that traffic flows were less than dire. This very success tended to act against the immediate future of helicopters with Lancashire. During this period the usual observer was Supt. David Mander, thus perpetuating this force's continued use of high ranking officers in the role.

On the mainland air police activity in 1974 remained at a very low key. Aside from the fairly am-

bitious operations in London, the only other operators were restricted to
ad-hoc flying over major sporting events. Even this activity was to enter a period of retrenchment brought about by force re-organisation. The boundaries of Lancashire Constabulary, a leading operator in the post war years, were revised in 1974. They undertook a final appearance at the Grand National, Aintree, in the spring before handing over the duty to the successor to the Liverpool City force - the Merseyside Police.

In the early 1970s Lancashire were allowed an meagre annual budget of around £1,500 for helicopter and fixed wing operations. When, in 1974, amalgamations caused the removal of the approaches to Aintree races from the responsibility of Lancashire Constabulary, the budget was cut to £800. Fixed wing operations, including coverage of the Open Golf Tournament at Royal Lytham St. Annes in July 1974 were covered using a Piper PA32 Cherokee Six aircraft obtained from a private contractor in Blackpool.

The use of the single engine Piper arose out of the temporary unavailability of the AA aircraft. It provided a stable perch for the two observers, Supt. Mander and Constable Pickles. Pickles was assigned the unenviable task of operating the hand held video camera out of the rear door aperture of the light aircraft. Naturally the officer was securely strapped in, but protection from the slipstream was minimal.

The AA changed their single aircraft from the Piper Apache to a Piper Navajo registered G-AXAZ in 1971. This far larger aircraft was not endowed with nimble flying characteristics, a matter which may have created concern in the corridors of some police HQs already having expressed concern about the Apache. Naturally such doubts were muted - even a poor aircraft is better than none. Neither the Apache or the Navajo were poor observation aircraft by virtue of their size, it was primarily a matter of perception by some. Both types have enjoyed world-wide use in law enforcement, albeit in the transport role.

A number of forces remained heavily reliant upon the use of conventional fixed-wing aircraft through the CD scheme to maintain observer flight hours. Illustrative of this type of operation was an exercise undertaken by the Staffordshire and Stoke-on-Trent Constabulary in conjunction with the Birmingham UAS in the spring of 1972. The UAS, equipped with the Chipmunk, were still fulfilling an annual task of 40 hours training police and fire brigade air observers in the CD role.

On this occasion a single Chipmunk, equipped with both VHF and UHF radios, was flown from RAF Shawbury to Birmingham [Elmdon] airport on the afternoon of Thursday March 30, with a mixed crew consisting of Flt. Lt. M J Baker and Insp. J W Pountney from the Traffic Division. On the following morning the aircraft operated from Elmdon for one and a half hours in the vicinity of Brownhills, to monitor Easter Holiday traffic flows; the M5 and M6 being of the greatest interest. In addition to the patrol period, fifteen minutes flying was required to transit west from the airport. On this occasion the afternoon flight was curtailed by bad weather which encroached upon the visual limits set for the Chipmunk.

The whole of this particular holiday period flying programme of traffic patrol and photography was severely curtailed by the weather. Although the attachment was scheduled to cease on the evening of Monday, April 3, an extra day was arranged for the Tuesday. This was also curtailed to a short afternoon flight on traffic spotting duties.

UAS flights continued to illustrate a readiness by the Home Office and Air Ministry to occasionally allocate some of the hours to police rather than war related activities. This was not indicative of a permanent softening of attitudes. On another occasion a police operation with the Birmingham UAS in late October 1973 adhered rigidly to CD training.

Late in 1972 a number of forces were fending off the attention of the manufacturers of the Good Year airship. An example of this American airship was undertaking the British section of its European tour, during which it was considered chief constables were legitimate targets. The Chief Constable of Lancashire was approached and given a trip in the airship which enabled him to

swoop unexpectedly upon sections of his command not previously alerted to his intentions. A visit to the annual Biggin Hill Air Fair Show, at which the Metropolitan Police air unit had a stand, introduced members of the embryo ASU to the craft. A full, and favourable, report subsequently submitted by unit observer Sgt. Ron Potter was eventually turned down.

Another 1972 air show air show attended by the Metropolitan unit was one of their own making. On May 24-25 at Denham, a Police Air Rally was held. Among the aircraft present were two of Air Gregory's police use Hughes 300, G-AYLX and G-AZEJ, and an US registered Air and Space 18A cabin autogyro, N6170S. The latter was another type "going the rounds" of presentation to police authorities. A sleek tandem two-seat machine powered by a Lycoming piston engine one of the few built had been registered in Britain during May 1971. Unfortunately it had not lasted the month before crashing on May 21, this had presumably led to the appearance of the US registered example. It was not only failed to find acceptance for meaningful law enforcement duties in Britain, it also failed in the rest of the world.

The Air and Space 18A autogyro, had a British counterpart that was presented in project form to a number of police forces - although the type was linked primarily with the local Hampshire Constabulary. The Thruxton HDW1 Gadfly. When first announced as the ES.101 in 1964, it was expected that the Wiltshire School of Flying were to produce it in small numbers. Later the Thruxton Aviation and Engineering Co. Ltd took it over at Thruxton, Hampshire and the Gadfly name adopted. Like the US autogyro the two seat Gadfly was a single rotor design with a piston engine designed to push it along. The type evolved, un-flown, and eventually came under the umbrella of Gadfly Aircraft Ltd., Andover, Hampshire. In May 1968 the new owners attempted to get the angular prototype machine into the air during lengthy trials at Blackbushe Airport. As far as can be gauged, the Gadfly never flew. It ended its days as a museum exhibit and the sleek production machine never passed beyond the artists impression stage. The day of the police autogyro was done.

Although they had attracted the attention of the Gadfly manufacturers, Hampshire Constabulary involvement in police aviation was sparse. They were operating helicopters and light aircraft on an ad-hoc basis, but so were many others, such as Lancashire and Hertfordshire. Nearly ten years beyond the use of the Brantly B2 by the constituent Oxford City force, the police in the Thames Valley were still undertaking ad-hoc use of helicopters supplied by BEAS at a low level. BEAS supplied a Bell 47G [G-AYMY] and a couple of the larger Brantly 305 [G-ASXF and G-ATLO] as well as examples of the B2 into the mid-1970s.

All major advances in UK police aviation, such as they were, remained with the central government financed police in London. In April 1971 and again in April 1972 the Metropolitan Police helicopter scheme using Air Gregory had been extended. Ignoring all the preceding activity, many references incorrectly stated that 1972 was the date in which operations in London started. For the financial year 1973-74 Metropolitan Police finance was set at a maximum of £65,000 on April 17, 1973. All flights under this scheme were to be pre-planned with no provision for patrolling. The majority of flights took place in daylight and on weekdays. In the event the amount used was £45,994.50 - some £19,000 below the estimates. The London police were now finding their feet in air support and experimentation with operators was now seen as an option. As a result, the days of Air Gregory over London were numbered.

It was around this time that the first woman was involved in UK police pilotage. Gay Absalom followed a recent family trend in joining here father in flying helicopters and passed her PPL in 1966. It was not long before she progressed to seeking a CPL in a period when women and helicopters were not an accepted combination. At the age of 23 she effectively went back to school at Oxford and gained the prized licence.

It was one thing to gain the commercial pilots licence and another to find work to go with it. Bristow Helicopter's turned her down – although he was not a party to the original decision Alan Bristow rejected her subsequent appeal – and Air Gregory ignored her letter. A further approach to Air Gregory was preceded by quiet enquiries to people already working there. Spurred on by

their positive views Gay telephoned Air Gregory and survived an interview with the Chief Pilot. She got the job. Operating with the Metropolitan Police on their contracts was a foregone conclusion. The date of the first flight is unclear, but certainly no later than December 1971.

It is unclear whether Gay was the UK's first ever female police pilot or just the first helicopter pilot. As far as is known the first woman helicopter pilot employed to fly with a police operation in the USA was Monica McIntyre with the Skynight Program in California from 1980. Neither of these ladies was a sworn police officer. The kudos of the first sworn officer pilot appears to have been Cora Sterling of Seattle, Washington in July 1934.

From June 27, 1974 Air Gregory lost its Metropolitan Police contract to Hampshire based Twyford Moors [Helicopters] Ltd. The company was based at the heliport in Southampton and had not set up a London area operating site prior to winning the contract. Original plans to fly from Abridge [Stapleford Tawney], as it was close to the home of one of the pilots, were dashed. As a result the company spent an inordinate amount of time and money ferrying the duty helicopter up from Southampton at the start of each week.

Twyford Moors were eventually to set up additional operational bases at Bristol, Leeds and Elstree. Similar to Air Gregory, the police business helicopter fleet was primarily based on the ubiquitous Hughes 300, both the 269B and the higher power 269C versions. Additional types in the fleet included the Hiller UH12, Bell 47 and a Sud SA341 Gazelle, each of which saw some use. Air Gregory, aware that they had lost the contract on purely financial grounds, predicted disaster. Those aware of the comments brushed them aside as no more than sour grapes.

The first public exposure of the new contractor was at the National Police Air Rally on 23 July 1974. A postal cover was flown at the event on Gazelle G-BAGL – apparently the one operated on the police contract. The envelope features drawings of a Gazelle, Islander and a Cessna 172, the first representing operational aircraft and the latter a police flying club craft.

Under some financial pressure from the unproductive ferry operations Twyford Moors ensured that the basing problem was quickly resolved. The initial pick up arrangement at Elstree was varied to fit in with the pilots billet at nearby Radlett. Although disadvantageous, the conditions initially imposed by the police were deemed acceptable primarily because of the standing of the customer. The theory was that the company holding the contract with the police in London could expect others to flock to them. Air Gregory saw some evidence of this, they flew for Hertfordshire. The reverse was the case for Twyford Moors, they had already flown for Hampshire and Lancashire (Aintree and the Preston Guild in 1971) and no additional contracts were noted. It is unlikely that the other contracts made up for the losses that Twyford Moors were enduring at the start of the London experience.

Underlining the parting comment from Air Gregory, one of the new contractors Hughes 300-269B machines, G-AXXD, was involved in a series of mishaps on police duty over London. On the afternoon of Saturday August 11, some 40 minutes after take-off the helicopter developed engine trouble which resulted in the pilot, John Black, making a precautionary landing on playing fields at Kidbrooke, South East London. The fault was diagnosed a broken exhaust bracket rattling. Although very minor, the machine was grounded for three hours awaiting the fitting of a spare part. It was around five o'clock before the repair was completed and the day was wasted.

The following Monday afternoon, with a different crew, pilot John Evans and observer Constable Mick Tunnicliffe, the same aircraft was again involved in an disquieting incident. As the Hughes came in to land at Radlett near the end of a patrol flight a strong gust of wind caught the aircraft and turned it against the pilots control movements. The result of the "weathercocking" was an bumpy landing and a report from the observer of a "near miss" (about 20 feet) on a hanger! It was later stated, and accepted by the police authorities, that the prime cause for this incident was the lesser performance of the 269B compared with the later 269C combined with the relatively heavy weight of the machine following refuelling at Elstree fifteen minutes earlier.

A third incident with the same helicopter later that same week rightfully placed the first two occurrences in the category of minor, underscored the Air Gregory statements and placed the Twyford Moors contract with the Metropolitan Police in jeopardy.

At 0740hrs the Hughes took off from Radlett piloted by John Evans and headed for Battersea Heliport where the helicopter landed normally at 0810hrs. Evans, with only ten days familiarity on the type, took off from Battersea without any problems arising. Unfortunately the Hughes had to return to the pad when the observer discovered that the police radio was inoperative. Once landed it was the work of only a few seconds to trace the fault to a loose connector. The heliport was small, parking facilities were very restricted, and the authorities at Battersea wished to see the departure of the police helicopter as earnestly as the crew. The Prime Minister, The Right Honourable Edward Heath, was due to arrive on an inbound flight at any moment.

The temporarily crowded nature of the heli-pad did not allow the usual flat profile climb across the River Thames after take-off. Evans elected to make a more demanding vertical climb out. Unfortunately, at 0845hrs, the day was already rapidly warming up to produce marginal flight conditions for the heavy helicopter. Lifting straight up to around 30-40 feet, the lift died away; resulting in a slow rate of sink towards the cold river. About 30 yards downstream, 15 yards from the riverbank, G-AXXD hit the water heavily.

It was fortunate that the tide was on the ebb. Amid much splintering of parts, the machine came to rest in 2 feet depth of flowing water. Peter Westacott, the observer, received none to serious back injuries, but this time the damage to the Hughes was terminal.

Peter was brought to the muddy shoreline and whisked off to St. Steven's Hospital, Fulham, for treatment. In the meantime a recovery team was brought in under the supervision of one of the senior observers, Sgt. Potter, but it was 1230hrs on a rising tide before the shattered remains of the helicopter were clear of the river. The airframe had suffered broken Perspex, skids and tailboom. Although it was to linger on in the register for some years, the Hughes never flew again and was eventually scrapped.

Inevitably, there was an air accident investigation, in addition the operators faced a police enquiry into the three incidents on the following Monday, the first possible opportunity. The company were able to account for all three occurrences in a reasonable manner, thus saving their valuable contract. The cause of the mishap to G-AXXD lay in its marginal excess of power to weight in certain conditions. The combined effects of a recently fitted engine muffler, to silence the machine on flights over London, combined with the high [20°C/68°F] temperature at the time of the flight had so reduced lift that it was calculated that the gross weight was some 50lbs too great to sustain continued flight.

Twyford Moors escaped cancellation of their contract on that occasion but, as Air Gregory predicted, there was a dark side to the contractor. In December 1974, the Metropolitan Police operations were dealt a long expected blow when Twyford Moors went out of business. Although the ailing company attempted to revive its fortunes after being re-named Inter City Helicopters, the end was a foregone conclusion and the police contract had to be hastily reassigned.

Six different companies were asked to provide quotes for a temporary contract, five replied, each of them gaining a series of two week trials in early 1975 to give time for the police to assess their capabilities whilst mulling over the bones of Twyford Moors/Inter City. The successful companies were Point to Point Helicopters, Alan Mann Helicopters Ltd., Helicopter Hire [Southend], Air Gregory and Somerton-Rayner. The latter operator, an former AAC pilot, provided a JetRanger to operate his section of the contract in late March. For an undisclosed reason his trial period was summarily cancelled after only two days and the remainder of his trial period was passed to Alan Mann to complete. The Lancashire Constabulary, also faced with the loss of the same contractor, changed their ad-hoc contract to Heli-Leeds who were then operating a JetRanger.

Typical costs in this period had reached £40ph for the Hughes 300, but the demise of Twyford

Moors resulted in this plummeting to only £29 as the remainder vied with each other for the prestigious contract. The 1975-76 contract was eventually let to Helicopter Hire [Southend], operating US Enstrom F28 two seat machines with an Alouette II as the larger type. In London the use of the larger type of aircraft [typically the Alouette and the Hughes 500] was running at around 10% of the total. In 1975 it was 90hrs against 1,028.45hrs.

Helicopter Hire was not just an ordinary aircraft supply operation. Its principal, John Crewdson, was a charismatic figure with many high profile contracts under his belt.

John came from a family of English builders, but erecting and repairing builders was too tame an occupation for him and he found that flying filled his need for excitement. He joined the Canadian army as a pilot and then qualified to fly helicopters in the USA in 1948. After some years flying for East African Airways he returned to Europe in time to become involved as one of the pilots in the rescue work in Holland early in 1953. Estimates at the time suggest that John alone was involved in ferrying 700 to safety.

It was while flying for a charter company in Europe that he first found himself flying a helicopter working with a film company. John was the pilot of a Sikorsky S-51 helicopter used to carry a cameraman on a nap-of-the-earth photographic chase of a car racing down a road in Monte Carlo. The results of this were released in 1955 as Alfred Hitchcock's 'To Catch a Thief.' After this experience he set up Film Aviation Service Ltd., in 1956 as a one-man business primarily aimed at offering a specialised aviation service to film makers. Over the years he worked on around 400 films including all the original James Bond and Alistair McClean films, Chitty Chitty Bang Bang, 633 Squadron, The Battle of Britain and Lawrence of Arabia. The film services operation was not confined to the use of rotary wing craft. Over the years a wide range of aircraft were brought in to star on the silver screen. Helicopter Hire had been set up as a more acceptable name for general aviation work but the aircraft and pilots available to it were the same.

With his film background John fitted easily into a later BBC television project to record some of the work undertaken for the Metropolitan Police. Perhaps the biggest difference was that for once John was able to appear as himself and with a speaking part rather than covertly acting as some arch villain fighting against the forces of good!

The AA changed its aircraft yet again early in 1974. The replacement for the three year old Navajo was the Cessna 421B Golden Eagle, G-BBUJ. The Cessna was even larger than its predecessor. In a handful of years the AA aircraft had progressed from an Auster spotter plane, to an 11 seat mini-airliner. Fed by commercial pressures, at each stage the move had tended to distance the suitability of the AA aircraft from that of a good observation platform available to police. The primary purpose for the motoring organisation buying a yet larger aircraft was to accommodate the medevac [medical evacuation] role in a period when there was a growing need for the repatriation of their members stranded in Europe. These, often lucrative, duties were to take up an increasing amount of aircraft time from the start of the summer season in 1975 - to the detriment of special event traffic observation.

After the 1956 Pye airborne television system there was little evidence of progress being made in improving the equipment available to the civil market. Most commercial airborne transmitters of television made do with small improvements to existing equipment mounted in or on a variety of aircraft to cover a few important sporting events each year. Although lighter, in general commercial camera equipment remained virtually the same overall size as that employed in the first airborne tv transmission in September 1950. Whilst the monochrome cameras had become smaller, the arrival of colour had tended to increase size again. In the police aviation role there were relatively small, unsophisticated, video cameras with which the external scene could be captured on tape for later analysis.

In 1972 the California Highway Patrol [CHP] were experimenting with the transmitting [downlinking] of traffic related images from two Fairchild-Hiller 1100 helicopters. Each helicopter carried a Microwave Associates camera and processor. The flying was related to a $9.5M project cutting

down traffic delays caused by accidents within a 42-mile freeway loop near Los Angeles. During peak traffic periods one of the two CHP helicopters would cruise over the loop of three intersecting freeway sections at an altitude of 400 feet. It would transmit television pictures to monitors in the Los Angeles Area Freeway Surveillance and Control Project centre. The centre – already receiving traffic flow information from sensors in the road surface - would usually send the aircraft to explain a known slow-down in traffic flow. The centre would then arrange for correct equipment to be sent to clear the area and for commercial radio messages to be sent out to warn motorists. The project appears to have ended in 1973. It is probable that the costs associated with providing two dedicated helicopters were too high and more economically addressed by ground based sensors and cameras.

There was little crime related image down-linking taking place anywhere. There was no driving reason to spend a great deal of money in miniaturising the equipment for air to ground transmission of images in the commercial sector. As always, it was a military need that brought about a revolution.

Relatively small cameras existed in the military sphere, down-sizing being driven by the US space programme and the creation of a range of tv guided “smart” weapons.
In both cases the telemetry equipment used to down-link the signal was relatively unsophisticated and not particularly compact. In the later case is was of course also a throw away item.

In 1970 elements of the Army Air Corps were supporting 5 Brigade in Ulster. The long troubled Province had erupted in sectarian warfare in the late 1960s, the Royal Ulster Constabulary [RUC] did not have their own air support and were sorely pressed on the ground. Whilst not popular with the majority of the warring civilian factions, the arrival of the military effectively solved both problems. The RUC had used military aircraft for many years, from 1959 they had regularly exercised with the Sycamore helicopters of No. 118 Squadron RAF. In 1969 there were some 2,500 soldiers in the province supporting less than 3,000 members of the RUC. The RAF maintained a presence in the form of a detached flight from 72 Squadron and the AAC presence was restricted to an air troop of six Sioux based at RAF Aldergrove. As the situation grew inexorably worse the number of soldiers, aircraft and specialist equipment grew.

In 1970 the AAC detachment was only just in receipt of gyro-stabilised binoculars when they started to experiment with the means whereby they could take and transmit live video pictures from military helicopters flying some distance away from the object of their interest. What they sought was a Trojan Horse system that was small and capable of being placed so far away from the target that no one would suspect its purpose even if they could see the helicopter that carried it, a clearly visible, but covert, information gatherer. Among the problems they faced was the stabilising of a shake free picture in a vigorously vibrating helicopter. The transmission of the signal to the ground station presented few problems. The trouble was the stand-off requirement which required a high value telephoto lens which effectively magnified the effects of the vibration. They failed.

In 1972 Major Neville Edwards, 39 Brigade, undertook further experiments locally to attempt to meet this exacting civil police and military requirement. The trials included suspending a borrowed video camera from a single point in an effort to provide the desired shake free picture. Extremely rudimentary, the trials included suspension of the borrowed video camera from a rope as well as a variety of tripods and other commercial mounts. The progress, although rapid, was basically re-learning all that the BBC had been through in the previous twenty years.

Progressing to a series of experiments at the Royal Aircraft Establishment [RAe] at Farnborough, it was concluded that in order to achieve the desired performance the camera system would have to abandon lengths of rope and evolve a gyro-stabilisation system. The trials were taken to the next stage by a group from the Electro-Optical Systems Division of Marconi-Elliott Avionic Systems based at Basildon, Essex. The evolution of the company name has resulted in the demise of both the Marconi and Elliott names, the division now being part of GEC-Sensors. For continuity the company will be referred to as Marconi.

None of the group assigned to the development task were aware of the 1956 Bristol/Pye tv trials. They were however fully aware of the progress their own company had made in the field of secretive military tv systems and data transmission.

Due to the urgency of the time-scale presented by the AAC were to use standard production equipment, some acquired from the BBC, and other items from the "secret" military stock. The initial use of a military Westland Wessex helicopter helped to evolve a fixed vertical mounting for an airborne television system which was eventually to be shoe-horned into the confines of the rear cabin of a standard Scout helicopter. Access to the Wessex allowed the engineers to mount the trial rigs in the ample cabin and work around it. The requirement would result in equipment that would result in an unobtrusive, covert, installation in a helicopter that was already a familiar sight in the skies over Ulster. No other requirement, that the equipment was demountable, cheap, simple and available in six months, took precedence over the covert mount. All versions of what came to be known as Marconi Heli-Tele were therefore somewhat larger than any system developed from a clean sheet of paper without a rigid time limit. The specification for this specific requirement resulted in equipment which was effectively reduced to a narrow field of view with the helicopter static.

The result of Marconi meeting the AAC/RUC needs on time was that the initial colour tv equipment weighed in at some 700lbs [318kg], far more than the monochrome Pye equipment of eighteen years earlier. Fortunately helicopter performance had improved in the intervening period. Even the development of the system only resulted in the overall weight dropping to 380lbs [172kg]. A modern twin sensor system of far greater performance and the potential of a 360° field of view weighs somewhat less than 100lbs [50kg].

The tv controller of the first flight standard system in Scout XT634 initially sat facing the rear, as the operator had in the 1956 Pye trial, later revisions placed him in a forward facing seat. In the new position the controller was provided with a rigid control arm plucked straight from a TOW airborne anti-tank missile control unit. As in the Pye trial, there was space only for the pilot and controller. With advances in automatic quality control of the image and its transmitted signal the workload was manageable. Unlike the Pye system, the majority of the controls were inaccessible in flight on a rear compartment panel on the starboard side. There was also no physical access to the camera in flight, it was trained electro-mechanically out through a glazed aperture flush with the fuselage on the port side. The transmitter aerial was either fitted to the underside edge of the camera box or on a retractable mounting on the port skid.

The second Scout to be equipped for the trials at Middle Wallop, Hampshire, XT643, whilst representative of the production standard differed little from the prototype. Makeshift items like the TOW control arm remained standard for some years before a more ergonomically acceptable lap-top control box on a flexible lead replaced it. With Marconi tv cameras now bowing out in favour of cheaper imported equipment, most of the major changes to the system related to these. The 1974 sets used Sony cameras, these being superseded by Hitachi equipment in 1975.The final camera, equipping the majority of Mark 1 sets, was a Japanese import bearing a familiar label - Pye. The wry humour of the final selection was of course lost on the Marconi team. All of the Marconi Heli-Tele sets were assigned a primary role in Ulster. The Scout Heli-Tele installation was passed as suitable for use on February 12, 1975.

Heli-Tele performance was breathtaking. The early examples met or exceeded the aims of the AAC requirement, and for many years the secrecy of the equipment and its capabilities was maintained. The secret of the success of Heli-Tele was primarily the capability of the camera and lens and the gyro-stabilisation. The Phillips LDK 14D featured a 25:1 zoom facility and a 1.5 times range extender which, by 1977 when the wraps were reluctantly taken off the equipment, showed that the camera could zoom down from 20° to only 1°. Fortunately, very few actually understood what that actually signified. It was sufficient to know that the AAC Scout helicopters were able to stand off the target area virtually unnoticed and take in every detail of the action - as if they were standing nose to nose with the object of their attention. Amazingly, it was to be a

decade before the true worth of the system was to dawn upon those citizens of Ulster mainly affected its prying eye.

As a result of a request from Belgium a Marconi Heli-Tele team set off to demonstrate their new system to the Belgian Gendarmerie. The Gendarmerie - also known by the Flemish term Rijkswacht - was then like its French counterpart a military unit tasked with civil police duties. As a military unit, it remained a secretive organisation and became aware of the spy camera equipment through a routine exchange of information through NATO. At the time it operated a fleet consisting of a mixture of seven SA316 Alouette II and three SA330H Puma helicopters. In Belgium the police task was shared between a number of different organisations, small borough, or town, civil forces and the all encompassing military regiment with a strength of around 19,000 which operated until the end of 1991 as the military unit, it was then civilianised.
Unfortunately the Marconi team set up their demonstration for the invited audience and it steadfastly failed to work due to the inclement weather and a series of elusive electronic bugs! As the dejected British team packed up their equipment they received an urgent request from the Gendarmerie to try and breath some life into the equipment again as Belgium had just been struck by an unexpected double strike by transport workers. On this occasion the equipment worked faultlessly. As a result in 1976 a contract was awarded to Marconi and their local partners SAIT to provide fixed equipment sets suitable for use in the large Puma helicopters. The system was similar to that fitted in the Scout, but in that it was fitted beside the open starboard doorway in the large cabin of the Puma, observers could be carried and had in-flight access to all the controls

Sections of the police may have made a mental note to have no further dealings with the autogyro, but there was at least one figure in British aviation who believed passionately that they were wrong. Wing Commander Kenneth H Wallis RAF [Rtd] took notice of the tiny single seat US Bensen autogyro while still in the RAF. The Bensen was a minimal airframe structure with a seat, rudder and rotor powered by a single exposed engine driving a pusher propeller. He subsequently spent his post service years in developing a range of similar craft, most of which were faster, flew higher and featured a cockpit fairing, as the Wallis autogyro. The first flew in 1961. Early interest by the successor to the Auster company, BEAGLE, resulted in some Wallis machines being built and evaluated by the AAC, without success. Later some of what was to be a large fleet took a leading part in a James Bond film as “Little Nellie”.

Police work came along surprisingly late in the gestation period of the Wallis autogyro. From 1974 Wallis was employed in packing an autogyro onto a road trailer and towing it off to some remote location to fly for the Plessey Radar Research Centre in the south of England. Plessey were working on a contract with the Home Office Police Scientific Development Branch [PSDB], Sandridge, St. Albans, Hertfordshire. The research was into the detection of buried corpses using a “Multi-Band” pack of 4x70mm aerial reconnaissance cameras fitted to the belly of the Wallis machine.

The cameras were loaded with a combination of film types, generally a mix of regular black and white stock with infra-red. The theory was that when developed and printed the differences in image produced by different types of film exposed in parallel would highlight the expected differences in vegetation brought about by disturbances in the ground. Ken Wallis’ job was to fly over a number of test graves containing the carcasses of pigs. Using special filtration it was possible to emphasise, in composite enlargements, the minute colour differences which might indicate the required effect. The prime PSDB interest in the work was that the equipment would detect dead human bodies.

In the period from 1970 to 1974 at least 149 police searches were made for bodies which turned out to be buried as a result of criminal activity. Although each case was different, in many it was found that several hundred thousand man hours were being dedicated to these ground based searches. Many avenues were investigated in an effort to reduce this massive drain on police resources. Although it was yet to be proven scientifically, it was already accepted by many that the use of aircraft alone reduced the load dramatically. Although it was to prove a major overstatement, in the mid-1970s it was believed that aircraft would save thousands of man-hours on

each search.

The simple aerial search did not solve the problem of locating objects, particularly bodies, buried under the ground or lying hidden by dense undergrowth. The object of the Wallis trials was designed to go some way towards answering part of the problem. The project dated from some earlier work undertaken by the Electronic Research Laboratory, later part of Plessey, in 1967 and was to continue to call upon the services of Wallis and his machines every few weeks for three years or so. The majority of operations by Wallis were undertaken over test "graves" at Sandridge and Brocket Park, as well as around the Plessey works at Havant and the Longmoor Ranges near Liphook, Hampshire.

The autogyro's proved to be a convenient and economical method of placing the Plessey Equipment in the air, often flying from the immediate area of the trial. As the cameras were fitted with fairly conventional "wet" film, the developing and subsequent analysis of the results with the aid of, what were then fairly crude, computers, took a fair length of time and expense. As a result the need for Wallis' services was erratic, if intensive when he was there. It took only one day each to photograph the chosen site and at least three days to process the result.

In all 397 flights were undertaken in connection with the trial, on one day Wallis undertook seventeen separate flights. For Plessey the use of the autogyro was a particularly economical option, on non-flight days Wallis was paid a £40 fee, on days when he flew the figure rose to £75. As the latter figure included as many flights as the scientists requested it was truly a bargain.

Wallis' experiments continued into 1975 and 1976. On March 16, 1975 Yately Common, Hampshire, was searched by Wallis in what was to be his first "live" operation. The task was to five the bodies of five Irishmen supposed killed in retaliation for an IRA bombing of Aldershot Barracks. Flying the autogyro at an altitude of 1,500 feet the requisite photographs were taken of the target area and sent off for analysis. A few days layer great excitement was caused when a cluster of eight, grave size, anomalies was found on the composite image. Ground examination of the site revealed these to be a mixture of recently de-turfed sections and naturally occurring lush growth. No trace was ever found of any graves, and the original information was finally assumed to be a hoax.

Two months later, on May 19, Wallis undertook what was undoubtedly the most famous of his airborne "cadaver" searches when he went aloft in his autogyro G-AXAS to assist the police in London and Sussex in their hunt for the missing Lord Lucan.

Richard John Bingham, seventh Earl of Lucan, was suspected of attacking a killing Sandra Rivett, aged 29, in the basement of his estranged wife's Belgravia, London, home one night in November 1974. Lady Lucan herself was seriously injured in the same incident. Live in nanny to the Lucan children, Sandra Rivett had, it seemed, been mistaken for Lady Lucan in the darkness. Lucan was seen later the same night at a friends home in Uckfield, Sussex. This development was followed by the finding, near Newhaven on the Sussex coast, of a blood stained Ford Corsair car Lord Lucan had borrowed some two weeks prior to the killing. This led Wallis being called in to undertake a search for a body, or a grave, following the failure of the police to find anything during the ground searches undertaken in the November.

Almost six months after the incident in Belgravia Wallis flew at up to 2,000 feet over the Newhaven Downs on three separate flights supporting a new group of ground searchers. The first of these flights, lasted 50 minutes but including an unexpected temporary return to earth with a blocked fuel line. The other two flights were far shorter , being of 30 minutes and 10 minutes. Subsequently, an inquest jury looking into the case decided, on June 19, 1975, that the missing Lord Lucan killed Sandra Rivett. Guilty by presumption, he never came forward to test the evidence and is thought to have either committed suicide or fled the country.

This was not to be the last of Wallis' police "cadaver" operations. In April 1976 the Surrey Police called him in to undertake three unsuccessful flights expected to assist in investigations into a

fraud concerning rustled animals in the area of Dawes Green, Newdigate. Then in the September the Devon & Cornwall Constabulary sought his services in a body search looking for Mrs. Pat Allen and her children. Four flights, each of 20 to 40 minutes duration, were undertaken in the Salcombe area, two being over Hanger Mill Valley and Cliffs. This family, or their remains, were never found. There was little tangible resulting from two flights on a similar body search undertaken for the Hertfordshire Constabulary in November that year. The police approached Plessey directly and it was they who called Wallis out to the Standon area.

Ken Wallis' interest in police work was not solely confined to the Plessey experiment related body searches. He saw his small autogyro as the ultimate economical light search aeroplane for law enforcement. With the aim of attracting a wider interest from the police, for many years he was regularly to be seen at a variety of police shows. Although he included the serious occasions he was not averse to dropping in as an attraction at a police run summer flower and horse show. Little would keep this resilient old flier from keeping an appointment which might lead to that elusive breakthrough. At the request of the PSDB, Wallis accepted an invitation to give a demonstration of the cadaver research autogyro at Hutton Hall, the Lancashire Constabulary HQ near Preston on September 16, 1976. Observers attending this occasion spoke many years later of seeing the tiny autogyro arrive at the display area, land and switch off. The mainly non aeronautical observers were then amazed to see Ken ease himself up and out of the cockpit wearing a full plaster cast on one of his legs! This very real injury, matching a car crash break incurred in the other leg during 1973, had followed an upset on May 9. In spite of CAA misgivings, flying had resumed on July 14 in plenty of time for the Salcombe search and the Hutton demonstration. He found no problems in flying, but did face some difficulty in hitching up the autogyro onto the back of his trailer. That chore was left to others for some months.

The Wallis machines proved reliable, but were to receive constant setbacks in efforts designed to see them in full scale production. Licence production agreements with Vinten in the 1980s, and the earlier agreement with BEAGLE proved problematical. Never totally ignored, he was still flying visual body searches as a favour for the Norfolk Police as late as 1989, the fleet of Wallis autogyro's failed to make its hoped for break through into widespread police use. In many ways the minimal autogyro concept fell foul of the same solo pilot difficulties suggested for the Hiller XROE-1 one man helicopter of the late 1950s.

The photograph related cadaver research equipment project was showing up well in trials - although there had been no successes in the field - but technology overtook the system and it proved to be a technological dead end. Advances in electronic equipment led to the development of "real time" infra-red detectors that were, as forward looking infra-red [flir], to form a primary tool in law enforcement. Later Wallis went onto undertake trials for Hawker Siddeley Dynamics Ltd., with their Linescan infra-red sensor.

Six years after the horrific tail rotor accident at the Dumbarton Police HQ, in September 1975 the recently appointed Chief Constable of the Strathclyde Police, Glasgow, David McNee, attempted to gain permission from the local police committee to buy helicopters and form an air unit. At a meeting on Friday September 12, McNee approached the committee seeking approval for the purchase of two helicopters. The initial request was granted - but there were a number of other hurdles still facing him. It was a week or so later that it was disclosed that the type under consideration was the 2/3 seat Enstrom F28. Oddly there are no reports of any ad-hoc hire of aircraft in support of police operations in the period. The Enstrom purchase failed to materialise, and McNee was to have to wait for a further five years before, as Commissioner for Police, he was to succeed in overseeing the purchase of helicopters for London.

A few days after the Strathclyde meeting, on Thursday September 18, the Metropolitan Police "India 99" unit was operating over East London with an Helicopter Hire Enstrom F28 crewed by Captain Michael Woodley and Sgt. John Farrow. When off flying duties the police officer was usually stationed at Wanstead. Woodley noticed an oil system fault indication from the instruments and elected to take the helicopter down, under power, as a precaution at 1005hrs. The selected site for the unexpected stop was the grounds of the Wadham Lodge School, Walthams-

tow. Once Woodley was satisfied that the fault was merely a faulty warning light, after a ten minute delay, the pair took off and went to Battersea to get the faulty item changed. Another, similar precautionary landing was made on the morning of Thursday April 15, 1976. The owner of the company, Captain John Crewdson, a former pilot with BEAH in the early days, was piloting with a South London traffic policeman PC Doug Crew as his observer over Kilburn area of West London when a progressive breakdown of the electrical system became evident. An enforced but otherwise normal landing was made at the police training school, Hendon, as the radio failed. After the problem was assessed Crewdson was able to safely ferry the stricken Enstrom to Elstree for repairs at lunchtime.

These problems aside, the 1976-77 Metropolitan Police contract was again let to Helicopter Hire on April 1. One of the Enstrom's was almost immediately tasked with performing as a film star for a BBC tv crew making the previously mentioned feature programme on the helicopter operations over London. Set at a variety of locations, but mainly over Tower Bridge on the River Thames and in the Police Club, Chigwell, Essex, most of the content of this feature related to incidents acted out by a willing cast of ham police actors from nearby Claybury and Loughton. A strong feature of the programme script, as well as the title, was the aircraft call-sign "India 99". It was at this stage in the development of air support over London that the call-sign became public knowledge. An odd feature of this high quality programme was that whilst giving the helicopter its true radio identity, the makers gave each of the locally recruited ground units spurious, or deliberately misleading, call-signs.

The intensification of the Helicopter Hire Enstrom use over London led to further incidents and declared emergencies. In the autumn of 1976 overnight damage was found on G-BDKD parked overnight in the open at Elstree. The duty flight crew, Capt. David Voy and Sgt. John Farrow, arrived at the airfield for the start of flying operations at 0945hrs on October 11 to find that the windscreen was damaged. Fortunately it was not completely smashed, but the damage was such that flying was delayed whilst lengthy reports were made out and photographs taken. Reported locally as a crime, in the end no one was absolutely certain that the damage was
deliberate. As a result of this damage and other instances where the helicopters appeared to have been tampered with, the overnight storage of the craft was moved from Elstree to the security and seclusion of Lippitts Hill Camp. The move did not halt use of licensed airfields such as Stapleford and Elstree, all refuelling continued at these locations. After a final refuelling the helicopter was flown in and parked up on the grass at Lippitts Hill, left in the care of the resident caretaker and occasional visits by the local police station mobile patrols. There were no further instances of damage.

On the morning of Friday December 10, 1976 'BDKD was engaged as "India 99" with Capt. Voy and PC Bishop as crew over Hackney Marshes in East London, when the helicopter suffered a malfunction in the drive and a progressive low of power. Voy selected a clear space for an emergency landing and auto-rotated the safely into it Enstrom The remote spot was close to the one time British Railways Temple Mills (Stratford) Freightliner Depot.

The cause was immediately thought to be engine failure, but it was soon clear that it was more subtle than that. When the Helicopter Hire engineers arrived they found that metal fatigue had led to a strut breaking in the fuselage, this in turn leading to a loss in tension to the rotor drive belt. Although it was possible to effect a temporary repair which would have3 allowed the Enstrom to be flown back to Southend it was decided to take it back by road the following morning. Overnight the security of the helicopter was assured by its remote location and occasional visits. With is police markings and equipment removed or covered over, it came to no harm.

Helicopter Hire successfully gained what was to be its final annual contract in London in 1977-78. On the morning of June 13, 1977 local ground units called in the helicopter to help them search the extensive grounds of Goodmayes Hospital, Ilford. After three quarters of an hour the helicopter landed in the ground in order that the crew, Capt. Stephen Forde and Detective Constable Buddle, could converse directly with officers on the ground. Unfortunately, when the helicopter went to leave it made a terrific racket and had to be shutdown until the engineers were able to

get there and adjust the fan shroud clearance. Once that was done the Enstrom, G-BBRS, was able to leave of its own accord.

The police in Northumbria had fortunately struck an economical deal with a local helicopter operator earlier in the year. On Friday May 6 a locally based Agusta-Bell JetRanger, G-BEKH, owned by Barratt Developments, major national house builders, was used on police business. This JetRanger was along with others of the Barratt helicopter fleet over the years, the regular star of a series of rotary wing biased tv advertisements for the house building undertaken by the company. It would clearly suit them to be seen offering their machine as a local resource.

For four hours on that Friday President Jimmy Carter was escorted on Tyneside by the British Prime Minister James Callaghan. On his brief visit Carter was given the Freedom of the City at the Civic Centre before whisked away to fly out of Newcastle Airport in Air Force 1.

There was cause for more ad-hoc police aircraft operations in 1977 than in any previous year. The year marked the Silver Jubilee of Her Majesty Queen Elizabeth II. Amid nation-wide celebrations, during the summer months the Monarch travelled around the country and many police forces felt themselves obliged to hire an aircraft in for the day to cover security and traffic aspects.

Two months after the Carter visit the police in the city were again using the Barratt helicopter. On Thursday July 15 the Queen had been visiting Durham and Hartlepool after which she had boarded the Royal Yacht Britannia and sailed overnight the short distance north to slip into the River Tyne at 0750hrs on the Friday. A large overnight crowd were reported to be nonplussed by the absence of the Monarch at that early hour. They had a lengthy wait, for it was not until 1000 that she and her Entourage appeared on deck to start the punishing nine hour schedule that lay ahead. Crowds of committed Royalists were estimated at some 500,000 throughout the area. The Royal Party, and the police tasked with security, were able to breath a joint sigh of relief at Teesside Airport later that evening when they flew out in an aircraft of the Queens Flight. Although the most important figures had now left, the police were able to wind down slowly by maintaining a lower level of security for the Britannia which left on the following Monday, and looking after the American boxer Mohammed Ali who was coincidentally in Tyneside for the blessing of his recent wedding.

Greater Manchester Police also had the use of a helicopter for the Royal Tour of 1977. The Queen arrived in the City of Manchester on June 20, and the hiring was just one of six flights undertaken for various duties in 1977. There are no more than vague reports of the use of helicopters in Hertfordshire, West Yorkshire and Nottinghamshire during 1977. It has not been possible to prove conclusively that these took place, let alone that they were connected with the tour.

The range of specialist equipment destined to equip the yet to be formed average UK air support unit continued to be the subject of demonstrations to interested parties. On July 26, 1977 the Home Office Directorate of Telecommunications, R&D Section, invited a number of police forces and other interested parties to a military establishment - Imber Village on Salisbury Plain - to witness the latest development in public address speakers - Sky-shout. Arranged in conjunction with the Wiltshire Constabulary and the Army, invited guests included the military, fire brigades and the police from the Metropolitan, City of London, Avon & Somerset, Dorset, Greater Manchester, Hampshire, South Wales, South Yorkshire, Staffordshire, Suffolk, Thames Valley and Wiltshire forces.

This occasion served to starkly illustrate the advances made in public address equipment since the bulky boxes were carried aloft by Auster's in the late 1940s. The equipment fitted on the Hong Kong helicopter in 1958 was equally gargantuan in comparison. There was little police use of this equipment in this period, most experience being restricted to military use. For the purposes of the 1977 demonstration, the twin TV450 speakers were mounted clear of the carrier, an Army Gazelle helicopter, on weapons pylons. By the time similar equipment came into regular police use in the UK, three years later, the "compact" 1977 equipment was itself to be considered

bulky.

In spite of it continued classification on the restricted list, the police in London became the first civil user of the Marconi Heli-Tele in the summer of 1977. In the 1970s a street festival had grown up in Notting Hill, West London, slated to coincide with the August Bank Holiday and claimed to attract crowds of around one million it was a glittering array of bright colours and Caribbean music. As it grew ever larger the worst kind of trouble was attracted to the Notting Hill Carnival, and policing grew year on year. The event in the summer of 1976 erupted into widespread street fighting and the police were caught out without sufficient planning and no defensive equipment. Officers caught out by stone and bottle throwing crowds found themselves using dustbin lids as defensive shields.

Senior police officers, reeling under well founded criticism directed from junior police and senior politicians, sought to improve many things before the next Carnival. Defensive shields were designed and rushed into service and the provision of air cover re-assessed. The Army was approached to see if one of their Marconi camera systems could be borrowed for the event. They were extremely reticent, with many not wishing to widen the number of people “in the know” about the capabilities of the system, but eventually they agreed. Although they were in their last year, Helicopter Hire remained the contractor operating the London contract. In addition to the Enstrom the company provided a Sud Alouette II, G-AWAP, on an occasional basis broadly in line with the previously mentioned 10% of total flight hours. As the Enstrom would be unable to carry the tv system the Alouette was brought in.

The first technical difficulty to be addressed was where to put the system. The rear cabin of the French helicopter was different to that of the Scout so the camera part of it would have to be externally mounted. The Army did not release the equipment for long, resulting in the design process being very quick. Eventually the tv camera was inserted within a simple box structure fitted to rear section of the port landing skid. Some of the control equipment was placed in the rear seating area, and the monitor and controls on the front passenger seat. The only other person on board besides the pilot, the Marconi operator, was seated behind in the rear port seat facing forward. A further difficulty was that the vast glasshouse of the Alouette resulted in the image on the tv monitor being invisible. This problem was solved by taping large sheets of cardboard around the monitor and across the glazing. It was all very Heath Robinson - but it worked.

In preliminary tests over London it was found that there were some problems with the stability of the Alouette and yet more glare for the operator. A wind-shield was fabricated to assist in solving the stability problem. The flight over Notting Hill was a success - although it failed to halt further trouble on the streets - and few if any realised what the ungainly box on the side of the helicopter was designed to do. Further modifications were undertaken to the Alouette when it was called into again to undertake an observation flight over a National Front march in Manchester in the October. The glare problem was partially fixed by making up an extended cardboard shield which unfortunately tended to get in the way of both the pilot and the operator looking out of the aircraft to see where they were! Such are the problems encountered with new equipment.

On October 8, 1977 the National Front held a march through the Hyde, Longsite and Stockport areas of Greater Manchester. Six thousand police officers, including many from surrounding areas, were drafted into Greater Manchester to await the violence expected from counter demonstrations. The main march was covered by two helicopters, for whom the CAA had issued ATC call signs of “Hotel 900” and “Hotel 909”. The pair operated out of the Athletic & Social Centre, Hough, a facility provided with a temporary fuel supply in the light of an earlier bad experience with a police helicopter operating out of Manchester (Ringway) Airport. On the earlier occasion the hired helicopter had been lost to the police operation for 30 minutes due to insurmountable ATC problems.

According to Marconi papers relating to this event, it appears that their involvement in this contract was at such short notice that, like the Belgian experience, it was also acting as a demonstration of the system to the customer.

In the new financial year starting April 1, 1978 Alan Mann Helicopters Ltd., of Fairoaks, Surrey, took over the Metropolitan Police contract from Helicopter Hire. The change in contractor was, as before, based firmly on the competitive price quoted. The arrival of Mann's brought about a complete change in aircraft types. In place of the Enstrom and the Alouette came the return of the Bell 47 and the arrival of the JetRanger as the larger type. The company were UK agents for Agusta, the majority of the JetRanger's in use being examples from the Italian production lines. Fortunately this time there were no heart stopping incidents to start the year off. Nonetheless, the company were slightly stretched by the contract on occasions, having to resort to the use of JetRanger helicopters hired in from Trent Helicopters.

The prices quoted for aircraft supply for the year were:-

Bell 47	£65ph
JetRanger	£129ph

Alan Mann brought about the fitting of the first role equipment to a British police helicopter - if the fitting of a small searchlight very much akin to a landing light and a few other minor items could really be given the credit for role equipment. In addition, the company introduced a fuel bowser to the Lippitts Hill site, thus removing the need for an off site refuelling, and its attendant landing fee, immediately prior to closing the operation each day. The unit were to gain access to a concrete landing pad and a portable building as further site improvements at Lippitts Hill during the period Mann's ran the operation.

The development of high quality airborne tv systems was not confined to Britain. An engineer working for Westinghouse in Canada, J Noxon Leavitt lead the design of a new, remote operation, type of camera mount for use on all types of vehicle. The resulting hardware was a relatively large ball which could take either video or cine cameras. This equipment, the subject of a secret US military requirement, was known as the WESSCAM [WEstinghouse Stabilised and Steered CAmera Mount]. At this stage there were no plans for direct transmission of the image to the ground. There were a variety of camera mounts being developed across the world, many remained firmly entrenched in movie technology but even those moving to tv remained largely unsophisticated. The standard means of carrying a camera remained the cameraman strapped into a seat and perched on a movement damping rig out of a door. Others sought to place a cameraman inside a giant ball which was itself suspended beneath the helicopter. The carrier craft was heavily modified with enlarged retractable landing skids. Although cumbersome, and fraught in cases of emergency, this equipment was about the only equipment available that allowed a full, unobstructed, 360° coverage for the camera operator. Gradually, all homed in on the ball mount, or turret, as the most cost effective answer to carrying cameras aloft. Once introduced, the sizes shrank and the capabilities grew.

Leavitt bought the rights to the WESSCAM and left Westinghouse in 1974, to set up a new company ISTEC [Inertial Stabilisation Technology] Ltd., based itself in Hamilton, Ontario to develop it. One of the later changes was to alter the equipment name to WESCAM.

Not long after taking delivery of the Marconi Heli-Tele, the Belgian Gendarmerie expressed a need for a different type of mounting for their equipment. They had a lesser operational need for a covert mounting for their system, and the narrow field of view necessitated by inserting the camera inboard on the starboard side resulted in situations arising where, at low level, the pilot had to break off from the task due to obstructions, as a result the operator lost the target. In addition it was hoped that a ball mount would ease the installation of the equipment onto the Gendarmerie fleet of Alouette II's.

The ball mount Heli-Tele, or Mark 2, was evolved with the assistance of the RAe at Farnborough. In July 1977 one of the Wessex fleet was carrying a rough wooden mock up of the intended ball mounting on the starboard weapons carrier. Development was brisk. The end result was the marriage of the exceptional capability of the Heli-Tele and its downlink with a mounting that promised to provide a potential field of view of around 150° from the aircraft centre-line.

On April 6, 1978, some six months after the British equipment had necessarily been used operationally in the box mounting at Notting Hill, the Home Office arranged for the Marconi Heli-Tele to be shown alongside its Canadian rival Wesscam at Sandridge. Sixty senior officers from a range of police forces attended the event. The tv systems were carried on two of the four helicopters on show. An Air-Film Services Alouette II carried a Wesscam ball for the Surrey based UK arm of the US Company, and a similar type from Helicopter Hire carried the Marconi Mark 1. Although the Wesscam was mounted in a ball with a potential field of view of 360°, its mounting position placed it on one side and gave it an actual field of view of around 150°. More telling, the Wesscam sensor equipment was not connected to a down link. Point-to-Point Helicopters sent a new Aerospatiale SA341 Helicopter and a Hughes 300 to widen the interest of the day. The Gazelle was destined not to play a major role in police aviation. An original 1967 Sud product taken over by Aerospatiale, it was primarily a sleek military craft, being the subject of a joint Anglo-French helicopter production agreement in January 1967. Less suited to the police role, nonetheless it did have a part to play.

The Belgians ordered the new Mark 2 system and fitted it to the starboard side of their Pumas and the port side of their Alouette's. In addition the Italian State Police also purchased Heli-Tele and fitted on some on their Bell helicopters from late 1978. The British military requirement for updating the airborne tv equipment and its transfer to the Scout replacement, the Westland Lynx, from 1978 resulted in the adoption of the ball mount as a more cost effective system. The loss of the covert housing of the equipment within the airframe was offset by the superior specification and made largely pointless due to the publicity that had attended it since introduction. To ensure that continuity of coverage was maintained, all of the Mark 2 equipment for the Lynx fleet was new, rather than await the re-conditioning of existing Scout sets.

Later that year, between August 25-28, the Marconi equipment again went into operational police service over Notting Hill. Although the new Mark 2 existed, it seems that there were insufficient sets and Marconi had to go and beg the Army to release one of their Mark 1 sets to the police. The military were not very inclined but were eventually persuaded. The change in air support contract from Helicopter Hire to Alan Mann created few difficulties. New Scotland Yard contracted Marconi to supply them with the coverage, it was their choice to employ the Helicopter Hire Alouette on the operation. The Helicopter Hire Alouette was closely allied to Marconi and their Heli-Tele, over the years it undertook the majority of airborne development trials and operational contracts. Marconi charged the Metropolitan Police £3,535 for use of the equipment, operator and technical back up over the period, to this was added an hourly flight rate of £176.

The Alouette was operational with Heli-Tele over Leicester on Saturday April 21, 1979. The Right Wing orientated National Front Party were again exercising their inalienable right to peaceful demonstration in the streets of the Midland town but it was fully expected that a range of Left Wing activists were to seek to resist their rights with violence. Although only 500 National Front turned up for the march, over 5,000 police officers and the helicopter were there to protect them, leaving the opposition few chances to get close to the column of marchers. The chief constable let it be known that he had no great faith in the capabilities of the equipment, and could envisage no use for what he called "the toy".

The event was somewhat smaller than many such marches undertaken in London and elsewhere, but it was nonetheless taken in full seriousness in the strength of the police manpower prepared. At lunch-time the 500 NF members were peacefully making their way overlooked by a proportion of the officers on duty. Nonetheless the Chief was prevailed upon to release the Alouette, again carrying the Mark 1 equipment, to observe the activities of the relatively small groups seeking confrontation when reports filtered in of counter demonstrators making a move on the march. The helicopter did not solve all of the problems presented in the ensuing scuffles in the street, but it did allow the police hierarchy an pin sharp overview image of who was doing what and how. This information allowed them to place their men in the most appropriate position to counter the intentions at disruption. The Chief Constable was not the first or the last to belittle the value of the camera system. Neither was he the first or the last to proffer apologies to the Marconi engineers for foolishly expressing his doubt.

The Heli-Tele represented quite a load for the single engine Alouette, all uses over Central London requiring an easement from the CAA. Marconi looked around for an alternative airframe, preferably one offering two engines.

Between mid-June and mid-August 1979 the CAA, British Caledonian Helicopters, the Metropolitan Police, Marconi, A.S.L. and Miles-Dufon regularly met at Shoreham Airport, Sussex, to inspect progress with what was said to be the first UK civil helicopter to be mounted with the Mark 2 Heli-Tele. The airframe chosen for this work was a Bolkow Bo105 G-BFYA. The German helicopter type had first flown in 1967as a military utility type with tank-buster potential. The design ideals and four bladed rigid main rotor of the Bolkow conferred a legendary robustness on the type, but it was always to be regarded as the uncomfortable and noisy jeep. The type was to be at the core of first generation of UK police operations. In 1979 however, little interest was being shown in any twin engine helicopter by the UK police, inordinately expensive to operate, there was yet no compulsion to fly them over urban sprawls.

The use of the Bolkow in the Heli-Tele role was a growing acceptance that the days of the heavily loaded Alouette flying over London were over. With the completion of the work the Bolkow was ready to undertake coverage of the 1979 Notting Hill Carnival. It was on this occasion that the Bolkow landed at Battersea for a rest period and refuelling and took off in a less than standard state. The weather was agreeably hot so, on landing, the crew opened up the engine covers to improve air circulation to aid the cooling of the Allison power-plants. Some time later one of the crew wandered over and started to close and lock down the port side covers. Temporarily distracted, the crew were then called to “scramble” to provide air cover over an outbreak of trouble in the Notting Hill streets. The helicopter had been flying for a considerable time before it was realised that the engine cowlings on the starboard, or blind, side had not been closed down prior to the hurried take-off. Not evident to the pilot at any stage, the open covers only came to light when one of the Marconi engineers opened the door and stuck his head out to look to the rear.

History was to show that police aviation in the UK was to take a largely rotary path, nonetheless there remained pockets of strong belief in the fixed wing alternative. The primary advantage of fixed wing use is financial, the disadvantage remains the inability to hover over the target. Many continued to argue and demonstrate that many of the tasks undertaken by the helicopter could be performed equally as well by fixed wing types.

Many forces hired light aircraft for their already pilot qualified police officers to fly on ad-hoc photographic and traffic spotting operations. These flight were low key and few records were kept. The police in Sussex were one of the major operators in this field during the mid-1970s.

Following the low level of operational activity experienced during the 1967 helicopter trials, it is not surprising that Sussex, by now a combined force based on a headquarters at Lewes, undertook few if any further flying. In the wake of the Wallis search for Lord Lucan in 1975 however the force began a low key reassessment of the position.

Like all forces, from the mid-1950s CD activity had been sending officers to over a hundred miles away to Abingdon twice a year on WDO courses. Twenty years on it was suggested that it would be better if this flying was undertaken in Sussex where the officers would be able to improve their expertise in recognising parts of their own police area from the air. In addition, there would be savings in the considerable cost of sending officers to Oxford.

Sgt. McKinney was selected as the pilot for part of the scheme, although RAF pilots were still involved in the CD aspects of the training undertaken. Although he had undertaken some pilot training, Chief Inspector Maer acted as observer and navigator. The search for a suitable aircraft were made at Shoreham Airport, the initial enquiries meeting with an unexpectedly enthusiastic reception from the Airport Manager, A E “Ben” Gunn. Ben Gunn was a professional aviator prior to his managerial post, he had been a well known test pilot for 21 years until he retired from Boulton Paul Aircraft during 1966. He not only arranged all the right connections for the proposed police operation, he also insisted that the flying was anything but covert in nature.

The police had expected that the authorities at Shoreham would prefer them, and any aircraft they used, to be in plain clothes. They were wrong. With echoes of the 1937 air show, it was requested that the police flaunt their uniforms and use marked aircraft - it would be good for the image of the Airport!

The aircraft used for the surveillance training were usually Reims-Cessna 172 four seat [G-AVCD and G-AXBJ] both hired through Toon Ghos Aviation Ltd., at Shoreham. Other types were used from time to time, Cessna 150 and 150 Super being preferred for operational use because of the high wing, but Toon Ghos occasionally had to find whatever was available when the police contacted them, occasionally at short notice. The other types used included three seat French Jodel's [G-ASXS and G-AXSM] and a BEAGLE Pup [G-AXJN] which Toon Ghos owned.

As a back up to the existing mixture of flights, a private owner, Brian Dunlop, offered to fly his Piper Cub for Sussex Police as long as they would meet the cost of the fuel. This arrangement, flown from small strips at Hankham and Deaford, was used for some time until it came to the notice of the CAA. Enquiries by the CAA into police re-imbursement of fuel costs falling into a "hire or reward" category caused Dunlop to reluctantly withdraw his offer.

The flying operations included an element of mutual aid to nearby police, although the instance occurring on August 24, 1976 was unplanned. Rumours about an illegal pop concert, expected to take place at a secret location in Sussex had been circulating for some weeks and an aircraft, the Pup, was hired to assist in tracing its location. In the event this early example of the "Pay" or "Acid House" party settled at Seasalter, on the Kent side of the estuary. Undeterred, all of the mobilised Sussex resources were switched into assisting the unprepared Kent Constabulary to deal with the matter.

During 1979 the Toon Ghos Pup was used to assist 50 officers on the ground to search the 'Downs for a missing couple and their car in 1979, this short 30 minute operation cost £10. The final report on the flight which stated that the object of the search were not in the area was reinforced some weeks later when both were pulled out of the harbour.

In 1979, McKinney and Maer ceased to fly light aircraft for their force. Shortly afterwards Sussex took greater interest in helicopters.

The major modern advocate of the fixed wing solution was the south coast county of Hampshire. On June 30, 1978 the Chief Constable of Hampshire was approached, by one of his control room inspectors about the possibility of creating a fixed air support section using police officers as pilots. The idea appeared to have its merits and the inspector was told to go away and put some proposals on paper in a feasibility study. Although the object of his submission was to be some nine months away from fruition, Inspector Bob Ruprecht was never to look back for the rest of his police service - and beyond.

Some of the work envisaged for the proposed Hampshire air support unit related to the growing problems associated with the annual migration of so called "Hippies" to the open spaces of Hampshire around the time of the Summer Solstice. Other forces, including Devon & Cornwall and Wiltshire, were faced with similar seasonal problems.

During the summer of 1978, Devon & Cornwall Constabulary were granted aid of £10,000 to run a small experiment to provide air cover with hired helicopters. The police observers assigned were Superintendent Gordon Harrison and Inspector Barry Cutler, both of whom undertook a three day course of instruction at Middle Wallop with the AAC. Harrison was assigned the task of deciding how the operation was to proceed. He had prior experience of police air operations in a variety of mainly military types and through visits to the Swedish and Dutch police operations. These had included such types as the Hiller, Scout, Gazelle, Bolkow and JetRanger.

Based on the information gained from the two existing operations, the finance was used to cover

the use of a single engine Aerospatiale AS350 Ecureuil. The turboshaft engine six seat AS350 helicopter first flew in 1974 as a production replacement for the Alouette series of helicopters. Marketed in the USA as the A-Star and in the UK as the Squirrel, it remained in production for over 25 years, the final production examples being produced under the Eurocopter name. Compared with the tank like Bolkow, the AS350 and its twin engine brother the AS355, were a less robust product. Far more comfortable than the German machine, the sleek French craft provided a more pleasant working environment and a smoother relatively quieter ride. The downside to this was that the executive type was to prove somewhat less policeman proof in service than the 105. There were to be constant references to the cover of the navigation light on the end of the tail boom working loose. It was nothing particularly important, but it was the trade-mark of the type - just as was the in-flight shaking of the 105!

The contractor for the first trial was McAlpine Helicopters Ltd., based at Hayes near London [Heathrow] Airport. The first McAlpine AS350 used by Devon & Cornwall, G-BGIL, was operated from the ample lawns behind the Force HQ in Middlemoor, Exeter. The main section of the West Country experiment was conducted between July 20 and August 29. An extra day, a Bank Holiday falling on May 28, was curtailed by inclement weather. Five hours flight, in two equal sessions, was intended to be the daily schedule, experience was to show that the daily average was no more than four hours made up of four sorties of one hour each.

The initial tender was for a total of 105 hours, this to include the transit time from Hayes to Exeter. In the event during 78 flights some 84 hours and 38 minutes was spent in the police area and 16 hours 25 minutes on aircraft positioning. The outstanding hours, almost four hours, were “banked” for future use. McAlpine retained the contract for the supply of the AS350 to Exeter the following year, but it later passed to Staverton based Colt Executive Aviation, another major user of the type.

At the completion of the successful trial Supt. Harrison concluded that future operations would require police helicopter observers to hold the rank of at least inspector to enable them to effectively command situations from the air. The conclusion was common among the high ranking aircraft observers prevalent in this period. It was soon found to be both erroneous and uneconomic. Officers on the ground have no comprehension of observer rank - especially when information is being sent from an aircraft hovering 500 feet above. Reaction to observer advice or instruction relates wholly to the perception of its worth. The Leaders in many aspects of UK police aviation, Devon & Cornwall were display a woefully slow grasp of this fact and to be among the last to introduce constables into the observer role.

Rumours of the demise of the single engine over-flight of London easements for police operations had passed into near certainty by the time Alan Mann gained their final contract for 1979-80. There were long faces in the corridors of New Scotland Yard and many spoke of the demise of police aviation for London. The day to day type in use remained the ubiquitous 2/3 seat Bell 47 which cost £81 an hour to operate. Even the periodic use of the larger turbine power JetRanger and Alouette was costing a thought provoking £149 an hour, how would London be able to afford to operate a twin when the friendliest of figures being quoted placed a figure of £250 on each hour? In the same period the Ministry of Defence were quoting £800 per hour for the use of their helicopters.

As the police in London worked towards the operation of large and expensive helicopters, in March 1979 the fixed wing Hampshire Police Air Support Unit commenced part time operations with a budget of £3,000. The modest figure included a £375 contract and insurance fee, flight hours at £22 each and an allowance for landing fees. This gave them around 100 hours annually. Not included in this figure were the staff of the unit, two police officer pilots, each holding an Private Pilots Licence [PPL], with a minimum of 100 hours in command and a licence endorsed with instrument and R/T ratings. One of the pair was Ruprecht. The two police officers acting as observers each held a basic PPL. The principal aircraft used by this embryo unit was a Cessna 182 supplied by Solent Flying School, Eastleigh. As a back-up the company also operated a Cessna 152. When operational the ASU used the call-sign “Boxer One” to both police and ATC control

rooms. Funding for the unit remained £3,000 for the second year of operations. From these small beginnings the current Hampshire Police ASU have grown.

Thames Valley was a new larger force formed out of a number of smaller formations situated west and north of London. It was the successor to the users f the R36 over Ascot Races, the Buckinghamshire light aircraft and flying dog Danko with the Oxford City Brantly operation. Unlike such as Hampshire, the new force turned its back on fixed wing operations and maintained a close affinity with the helicopter.

Based in Oxford, Thames Valley had undertaken reasonably regular use of the helicopter on ad-hoc charters from local contractors until the late 1970s. The activities of the Campaign for Nuclear Disarmament [CND] resulted in the commencement of a more intense use of air support. With several major nuclear establishments in its area the force had long become accustomed to massively attended marches by CND swooping on places like the Atomic Weapons Research Establishment on the former airfield at Aldermaston, Berkshire, to preach the abolition of nuclear power and nuclear weapons, or winding their way from similar establishments to throng the streets of Governmental areas of London. Fortunately it was found that disturbances were generally restricted to the streets of the Capital. Greenham Common was to be different.

Following the NATO decision in December 1979 to deploy cruise missiles in Europe it was announced on June 17, 1980 that the United States Air Force USAF base at RAF Greenham Common, Berkshire, would be the first of two British bases. Ninety-six missiles would be stored in purpose-built launch vehicles inside purpose-built underground shelters from which they would foray into the countryside to secret launch sites in time of war. In a growing effort of anti-war campaigning CND and environmental groups descended on the site long before work was started. A long war of attrition commenced. The core of this activity developed into a Women's Peace Camp. In an age when women were still perceived as a relatively meek and mild sector of the human race, the situation that developed around this military establishment was a shock to many.

In order to assist in meeting the worsening situation around Greenham Common, Thames Valley intensified its use of helicopters. Commencing with a six week trial - the longest helicopter use then financed - the police found themselves increasingly reliant upon air cover. The unit was initially staffed by a chief inspector, two inspectors and a number of traffic division sergeants. Initially they used a number of helicopter types, including a Hughes 500 G-BEJY owned by Auto Alloys [Foundries] Ltd., of Hucknall, Nottinghamshire. This is believed to have been an aircraft obtained for them through Colt Executive Aviation. Driven by the pace of CND activity, the periods of hire extended continuously. In time the operation started to undertake other duties.

With the gates still obstructed by massed protesters, in 1983 the USAF started flying in the heavy equipment and missiles direct from the USA. The situation only changed when the missiles were signed away from the European Theatre of NATO in one of the strategic arms limitation agreements. Eventually the women went home, but the police helicopter remained.

CHAPTER ELEVEN

Full time

In spite of the shock waves it sent through New Scotland Yard, the use of helicopters with twin engines were not entirely a new concept in standard police work. Argentinean Police had employed examples of the Bolkow 105 from 1975 and from 1979 the type was used extensively in Holland and Germany and ordered in Australia. Uniquely Qatar ordered the twin-engine Westland Lynx for police use in 1978. In the murky area beyond the Iron Curtain police were known to have been using the Mil Mi-2, but that was not a type of operation that many knew a great deal about even many years later. In many ways the late seventies became a watershed for many police flying units. It was a time when new equipment was sought to replace fleets equipped with the Alouette and Bell 47 with more advanced types of a newer generation. Among many, France chose to remain with single engine turbine types, other grasped the potentially illusory extra safety offered by twin power. The main difference was that they chose the path. Not for the first, or the last, time London was thrust into it by establishment edicts.

In the late 1970s the range of twin engine helicopter types was quite restricted. Most of those that were already on offer were medium to large in size. The Metropolitan Police were presented with a situation that was in many ways to Hamper their future development. Like many of the first in their field, others were to profit from mistakes they learned. The choice of type was soon reduced to six types of twin helicopter, four originated from Europe, one each from Agusta, Aerospatiale and Bolkow with two from Sikorsky, and one from Bell in the USA. Briefly the contenders were the

Agusta 109. The sleek Italian helicopter was built like sports cars in its country of origin. First flown in 1971, and certified in 1977, the eight seat craft was powered by a pair of Allison engines. Although destined to serve in large numbers with the Italian Police, Caribinieri, Customs and police forces across the world, it seemed consistently destined to never made the break though in the UK.

Aerospatiale AS365. An eight seat twin powered by French Turbomeca engines, it had already undergone a major transformation by manufacturers unhappy with the styling of this Alouette III replacement. The revised model, larger and replacing a previous fixed tail wheel landing gear with a retractable nose wheel assembly was to underline the wisdom of the changes by becoming the finalist to the winning Bell 222.

Bolkow 105. The familiarity of the police with this type in operations might have given it a head start had it not also been one of the oldest types on offer. An early model, before a variety of cabin stretches were produced, it also appears to have suffered from its relatively small size in comparison with the opposition.

Sikorsky S61. Giving the appearance of being the “Joker” in the pack, this ten seat machine with origins dating from 1958 was the civil version of the military Sea King anti-submarine helicopter. In a search and rescue role, the type saw extensive law enforcement use with the US Coast Guard, and the police in Denmark and Thailand.

Sikorsky S76. Even larger than its S61 stable-mate, this 12 seat twin Allison helicopter was developed in the same time-scale and market niche as the eventual winner. It was also to prove the

more commercially viable of the two in the civil executive market. It was to serve with seven police forces across the world.

Bell 222. First flown in 1976, the winner of the Metropolitan Police contract was an eight seat machine powered by two Lycoming LTS101engines that were to ultimately prove its Achilles heel in British police service. It will probably go down in history as the first helicopter Bell built for the civil executive market. The London police were among the first customers and Bell were naturally cock-a-hoop. The police machine was to be delivered only six months behind the lead customer. There were to be proposals for a military derivative, but it was not itself a type derived from a military project and it failed to sell to the military.

One notable absentee from the list was a helicopter that might have been assumed to have been one of the leading contenders had it been available a little earlier - the AS355 Ecureuil, TwinStar or Twin Squirrel. This multi-engine variation on the type recently operated by Devon & Cornwall, came onto the scene marginally too late for consideration by the New Scotland Yard planners. The AS355 flew for the first time in September 1979 and had made to appreciable impression on the executive market at that time. There remains a suspicion however that the planners were thinking big in choosing their first helicopter. It may be that the Squirrel, like the 105, was considered too small at that time.

The current contract holders Alan Mann were also the UK agents for the Agusta A109 at that time, there being a number of instances where the police hierarchy were introduced to flights in the type from 1978 onward. The type was introduced to senior police representatives in September 1978, and brought back to Battersea again during the following April. The second visit was primarily to agree technical aspects of fitting the Marconi Heli-Tele with the manufacturer. By that time the die was caste. According to a confidential police report, the competition was down to a choice between the AS365 and Bell 222 by December 21, 1978.

Faced with the need to provide a fleet of twin-engine helicopters, Alan Mann lost the Metropolitan Police contract when it was renewed in 1980. Their successor was British Caledonian Helicopters, which offered the availability of the Bolkow. The prime craft was the 105 G-BFYA. A number of back-up machines included similar examples of the 105 leased in from their owner, the electronic giant, Ferranti.

The contract was one of high stakes and high rewards for the successful negotiator. Finally the die was cast. To be delivered seven months apart, two examples of the new Bell were ordered at a cost given as £500,000 each. In addition to the basic cost role equipment was to cost a further £250,000 each airframe and a further cost was to be the erection of a substantial hangar, workshops, offices and control room. In addition to a paint scheme that mimicked the accepted standard for road vehicles at that time - white with red and yellow -“jam sandwich”- stripes, the basic role equipment helicopters were to include sky-shout speakers a powerful searchlight and rescue winch.

Items that were to enjoy less prominence from delivery day were the external rescue winch fitted over the starboard door and the under-slung cargo hook. The London police were guided by Bell in the purchase of these items. The manufacturer was aware of numerous instances of rooftop rescue in other countries where its products were operated by police. In July 1973 some 500 people were rescued by helicopters from the roof of a blazing tower block in Bogota, Colombia. A fire on the fourteenth floor of the forty storey Avianca Building was spotted by a patrolling civil traffic helicopter. This initial three seat helicopter, together with a four seat Bell 47J and two army Bell 212s undertook the rescue lift in three hours. More recently, during 1980, a single Las Vegas Metropolitan Police Dept., Hughes 500C, flown by Sgt. Harry Christopher and his partner, was credited with snatching to safety over 120 persons trapped on the roof of the burning MGM Grand Hotel in a series of over-loaded flights.
Although London featured numerous high rise buildings of a similar stature to those in Bogota and Las Vegas, in the event neither of these items fitted in with the actual role of the Bell in London. The winch was soon removed and placed in the equipment store as surplus to require-

ments. There were to be serious problems associated with the use of this equipment, mainly associated with the manner and style of any training. The military were imbued with far better training in SAR techniques, a specific need for the equipment would only arise once in sixteen years. Problems were foreseen with entry and exit from the wide opening “car” type doors in a winching mode, but other operators - including the police in Japan - overcame these adequately. A feature mentioned at the launch was the ability of the Bell to undertake the air ambulance role with two stretchers replacing the usual seating. This was never a role envisaged by the police users and was little more than a statement of capability by the manufacturers.

A major feature of the London Bell 222 fleet was to be the fitting of the Mark 2 version of the Marconi Heli-Tele.
Early in 1980 the first Metropolitan Police helicopter appeared on the production line wearing the temporary flight test registration N9B. Shortly afterwards the same 222 was undergoing systems development tests in its intended police role by the manufacturer at Fort Worth, Texas as N5733H. Marked “Experimental” the 222 underwent manufacturers trials with the Marconi Heli-Tele ball fitted to the left stub-wing. This position fitted in with common UK practice, matching that of the Alouette, Bolkow and Scout. Unfortunately it was found that airflow around the bulk of the ball was interfering with air flow to the tail rotor. As a result the 222 developed an uncomfortable porpoise motion in flight. The difference between types was that the Bell had its tail rotor on the port side, whereas the other types had theirs on the starboard. The simple remedy was to switch the mounting to the other stub-wing.

The London police were European market leaders on the Bell 222. Much to Bell’s chagrin, for what they saw as their flagship executive type, there was to be no massive queue of customers. Aside from the engine problems that later came to light, for an indefinable reason the type consistently failed to catch the imagination in the same manner as the earlier model 47 and 206. The initial production model, later referred to as the 222A, sold in acceptable numbers but improved versions, the 222B, the 230 and even the latest example, the 430 were particularly slow sellers. In its heyday the 222 was to prove every bit the work-horse that Bell claimed it was. Limited units of air police in the Middle East, Japan, Nigeria and the USA were to confirm that.

Before delivery of the new Bell was affected, the unit was involved in a major international event - the dramatic Iranian Embassy siege. In June 1980 the Iranian Embassy was taken over in an incident which proved worthy of a few books itself. Employing the probing eye of Heli-Tele, the yellow police Bolkow was used to provide an aerial monitor of the scene and spent many hours hovering above Hyde Park monitoring the building. It was on hand to record the final minutes of the assault of the building by members of the SAS. It was reported that more than one television reporter got carried away and mistook the large spherical tv ball for a “remotely controlled gun turret”.

In the US the Bell 222 picked up the nickname “Triple-Deuce”, a title that did not travel across the Atlantic to the base of the new operators. Although the appellation was used on a number of occasions by the UK press in their reports on the type, the name did not get used by the police themselves. Most, if not all, crew members wholly disliked the Americanism. Throughout its British police service the type was known as the “treble-two”, with individual aircraft being identified by a phonetic alphabet rendition of the last letter of the registration. The first aircraft was therefore “Alpha”.

The first Metropolitan Police Bell 222 helicopter was re-registered from its temporary US marks to G-META on August 1, 1980. At that time it was till at sea. The helicopter arrived at Southampton Docks on August 24 and flew to the Bell agents at Oxford, CSE Aviation Ltd., three days later for fitting out with role equipment.

The cost of fitting out the Bell with its role equipment was over £150,000. The initial fit included obvious items such as the Heli-Tele, a distinctive paint scheme, rescue hoist, loud-hailer and searchlight, but also involved the removal of standard windows to insert bulged observation windows. A police radio fit and a myriad of loose items, gyro stabilised binoculars, maps and cam-

eras, were carried over from the existing fleet.

The Bell appeared in public for its post conversion trials at Oxford early in November. As always a number of spurious news stories grew up around some aspects of its intended role. From early stories appearing in some newspapers the public might be forgiven for believing they were witnessing the birth of a helicopter gun-ship with an electronic warfare role. The prohibition on discharging firearms from a police Bell 222 related equally as strongly in 1980 as it does today.

The helicopter was delivered from Oxford on November 21 with official photographs intended to be handed out at the official launch event being taken during the delivery flight and special overflight of tourist landmarks en-route. These were quickly processed in time for distribution at Lippitts Hill a few days later.

The first full time police air unit with its own aircraft in the UK was duly officially launched at Lippitts Hill on Wednesday November 26, 1980. A fleet of visiting Bell helicopters descended upon Lippitts Hill with official guests. The Home Secretary of the time, the Rt. Hon. William Whitelaw, later Lord Whitelaw, accompanied by the Commissioner of the day, Sir David McNee QPM, and a gathering of senior police and officials from the Home Office, proudly presented the new aircraft and facilities to the gathered media. The ceremony to officially launch and name the Metropolitan Police Air Support Unit was held inside the hanger and consisted of the Home Secretary removing the force flag and unveiling the force crest on the flank of the Bell, and a ceremonial handing over of the aircraft keys to the chief pilot.

In the eleven years since he was involved in the unfortunate accident on the Civic lawns in Dumbarton David McNee had entered into a number of attempts to bring about a police owned air support operation in the UK. It had finally required him to move 400 miles south for his opportunity to play a leading part in its creation, but he had finally triumphed.

With the official hand-over completed there followed a brief period of operations relying upon the Bo105 as the crews set about learning how to operate the new helicopter type and its new tools. Despite the fact that the duties of the unit had expanded considerably in the years prior to the arrival of the Bell 222, the number of personnel remained almost the same as is was in 1975, an inspector, John Saville, three sergeants and sixteen constables. During this same period flying times had risen to average at around 1,200 hours annually. Following the model of US practice, the unit undertook a respond and patrol flight cycle rather than respond only. It was to be well over a decade before the economics of this policy were called into question. Normal availability of the helicopters remained restricted. Overall it was initially available on a Monday to Friday basis and then the crews only worked a leisurely 0800hrs. to 1600hrs. or 1400hrs. to 2200hrs. Although the Bell's were equipped to fly on instruments there was a tendency to go home it the weather got particularly "dirty". In later years, when police air support came of age in the early 1990s, many acknowledged that the standard of early operations was a bit too laid back and "flying club" in nature. Eventually operational pressures were to change things and a six, then seven, day rota was imposed.

The original static facilities for the unit at Lippitts Hill consisted of a single structure and some enhancements to the existing landing pad area. Located in the spot that had once been the landing pad for the AAC Sioux helicopters thirteen years earlier it replaced a later portable building. The single building provided a multitude of facilities, a hanger sufficiently large enough for the two Bell's then on order, workshops and offices and a Control Room overlooking the pad on the first floor. This single multi-purpose hanger provided insufficient accommodation and use was made of the four nearest buildings for classroom, meal room, engineering and storage. With a unit primarily assigned to extended daylight hours, it was to be some years before overnight crew accommodation was required by the air unit. If required, huts elsewhere on the camp could be made available. The single storey brick huts close to the hanger were part of the inheritance left by the military. They remain in use.

With the arrival of the helicopter unit security for the site was stepped up and grand plans made

to enhance the general security of the camp. In times of increased security, alerts, matters inevitably related to the activities of the IRA, it was always assumed that there was at least the possibility of a missile attack on the unit from outside the perimeter. Much to the chagrin of the police chief concerned the primary security task overnight was devolved upon officers from the local police station. The task was no longer one of infrequent checks by passing patrols, each night an armed officer and a dog handler took over the security of the camp on a dull site patrol task which relied upon inspecting alarms on the buildings. Alien to most police officers, it was never more than a makeshift effort, but lasted some time before an alternative arrangement was set in place. Fortunately for the preservation of the military artefacts the proposed major security works, alarmed double fences, watch towers reminiscent of the PoW camp days were never incorporated. The security task was taken over by professional guards and the occupying armed officers in February 1983.

The Bo105 remained with the ASU until the arrival of the second Bell 222, G-METB, in mid-1981. With its Certificate of Airworthiness expired, for some weeks the yellow 'BFYA remained on site like a discarded toy. The apparent lack of enthusiasm in removing it suggested no more than a minor downturn in "trade" for the operators at the time. This particular helicopter was to provide the basis of many more embryo air support units in the UK.

In a period when the provision of central funding was rare, the arrival of the new helicopters underlined a feeling in other forces in the country that London was receiving unduly favourable financial facilities from the Government. It was a fact of life that successive Government's insistence on twin-engine power over Greater London had brought about the need to buy the expensive Bell's, under those circumstances the government felt themselves obliged to assist.

Not restricted by a requirement to operate expensive twin engine machines, the West Mercia Police contracted with the small company Freemans of Bewdley to use their Westland Bell 47G for air cover. Although £56,000 was set aside for air operations in the year 1980-81, only a little under £36,000 was used in the period. In accordance with standard practice in local government circles failure to make use of the provided sum in one year resulted in a greatly trimmed financial provision in the next. Cut by half in 1982, and eroded in succeeding budgets, in the face of a budget of £24,000 the spend in 1985 was just under £8,000 at an hourly rate of £100.

It is clear that West Mercia were facing difficulties in making proper use of their helicopter hours. The force offered their machine to Dyfed-Powys Police to search a desolate area of Tregaron, south east of Aberystwyth, where a farmer had been murdered with a shotgun in particularly gruesome circumstances. The culprit was known to have escaped into the wilderness nearby, a ground based manhunt was started. The enthusiastic West Mercia offer was taken up by Dyfed-Powys and the Bell 47 despatched to the area. Unfortunately, although the helicopter managed to fly to a remote site at Tregaron the weather immediately closed in. The Freeman's pilot spent a pleasant, but wasted, week testing the wines and beers of a local hostelry.

Elsewhere in Britain there were only two other leading proponents of the helicopter, Devon & Cornwall and Thames Valley. In April 1981 the former had defected from continued use of McAlpine and were operating examples of similar single engine AS350s supplied by the executive aviation arm of the Japanese Colt Car Co. Likewise using the Colt fleet, Thames Valley continued to advance its air operations from Oxford and Abingdon, albeit slowly. One of the pilot's was Arthur Burland, now retired from the AAC he had last seen air police service in Oxfordshire clattering around the county in the Sioux helicopter trials.

With no significant success, Wallis continued to promote his range of autogyro's for the police role. He was assisted in his endeavours by the manufacturers of aerial cameras W Vinten. The company had agreed to manufacture the craft under licence. To attract customers was proving to be a major task. Among many potential customers, members of the Hampshire Police air unit were invited to Bury St. Edmonds, Suffolk, in March 1981 to view a Vinten presentation of the Wallis.

Wallis, long hampered by a lack of manufacturing facilities and official AID standard airworthiness approval of his own necessarily small organisation, had long looked for a suitable licence constructor of them. It was a repeat of the situation faced by Cierva and his Autogiro fifty years earlier. In the earlier scenario the substantial dimensions of the product saw it moving from being a "toy" to being an accepted working tool manufactured in quantity by a world class aircraft manufacturer - Avro. Although Wallis believed emphatically in his product, he faced an uphill struggle in converting the general perception of his craft from toy to tool. The proposed manufacture by Vinten, a small concern with cameras as its core business, did little to assist this.

Initially the Vinten deal merely resulted in existing Wallis machines being provided with additional Vinten markings without any attempt to alter the specification, a military contract being won as a result of these minimal "badge engineered" demonstrators. Pure Vinten Wallis machines were also constructed as G-SCAN and G-VIEW. These were exhibited at Farnborough. The high hopes expected from the arrangement were dashed after Vinten attempted to undertake quite radical design changes, against the designers advice, to meet promises made to the military. This resulted in degradation of performance and the consequent loss of the contract.

Vinten and Wallis parted, leaving the latter to revert to promoting his little craft alone. Ken Wallis never understood why the police failed to make use of his tiny craft in the law enforcement role. Aside from the perception that it was a toy, the single seat autogyro suffered from the same ideology that had resulted in rejection of all single seat types offered - helicopter and fixed-wing.

Another type presented to British police was the Partenavia P68O Observer. As a twin-engine 6-7 seat business aircraft, the Italian P68 had been used in its primary role since the mid-1970s. The Observer was a variant developed to improve its suitability in the specialised aerial observation role. The resulting aircraft featured a fully glazed nose and the insertion of a large camera hatch in the rear floor of the cabin. The view provided was equal to that provided by many helicopters. The first example to appear in the UK was appropriately registered G-SPOT in June 1981 and presentations were made to a number of police, pipeline and overhead cable companies in the hope that orders might result.

The thinking behind the features offered by the Observer was similar to that leading to the later single engine Edgely Optica used by Hampshire Police in the mid-1980s. It was if anything a little ahead of its time. The number of police forces likely to regularly employ a twin engine fixed wing type in an atmosphere where singles were still quite acceptable were few. Purchase was an option for none at that time. The Observer was trialled by a number of police forces, including Devon & Cornwall and West Midlands, before it crashed. In later years a further UK registered example of the Observer, G-OBSV, was used occasionally by the police in Lincolnshire.

Never the great success that was expected of it, the Observer variant found its greatest success in law enforcement with units in Italy. A number were purchased by the Italian Police for general observation duties.

In 1982 Pope John Paul was scheduled to visit Britain in early summer. The visit was a controversial first visit by a Pontiff with his roots in Communist Poland. Britain and Argentina were on the verge of war following news breaking of the latter's invasion of the Falkland Islands [Islas Malvinas] in the April. The trouble was taking place on and around a distant outpost of the British Empire, but Britain was primarily a Protestant country and Argentina Roman Catholic. It would take little to create an incident that would distance the Argentinean flock from the leader of The Faith. The Papal Party were due at the end of May and, as it turned out, the war did not reach its bloody climax until mid-June.

The Roman Catholic church figurehead had marked his occupancy of the post by undertaking a great number of visits to different countries and projecting a progressive image in his choice of transport. Best remembered for his penchant to kneel and kiss the earth at the foot of many airline mobile stairways, John Paul was a man of fast airliners, helicopters and "Pope-Mobiles".

Progressive as the Pope was, at a time of great danger his UK visit resulted in the police employing a number of progressive new tools in ensuring his personal safety. In improving the effectiveness of air support over the visit police in the areas affected were offered the services of the Helicopter Hire [HH] fleet Bolkow 105 G-BFYA and Alouette G-AWAP, equipped with the Marconi Heli-Tele ball. In addition Captain Crewdson had acquired the use of a new sensor in the civil police field - a forward looking infra-red [flir or FLIR] thermal imager [TI]. For police units largely restricted to operating in daylight, flir was to represent the as yet unrealised future of police aviation, the sensors that provided the eye that had an ability to see in the dark.

With a sensor that electronically picked out the differences in temperature between objects in its range, flir was not in itself new. TI techniques had been used for some years in seeking "hot spots" of potential failure in power cables from ground level. The military had naturally investigated the techniques to assist extending battlefield vision into the hours of darkness. It was as a result of the latter that the equipment was miniaturised and placed in and on aircraft. Initially using inflexible mountings, the technology surrounding gimballed ball turrets developed for tv cameras read across to flir and eventually led to the modern turrets with dual sensors and 360° vision. In the case of the supercooled sensor head of the flir, the camera required external mounting to overcome its inherent inability to "see" through glass or plexiglass.

The development of thermal imaging has remained a largely closed book, but the Portland, Oregon, USA based FLIR Systems Inc [FSI] first developed a commercially viable TI system as a hand held unit in August 1979. This equipment was used by the California Dept. of Forestry to image forest fires. They soon mounted the hand held unit in a pod on a plane, effectively preempting the first Series 1000. First civilian user was shortly afterwards, in 1980, a user on the Pacific Northwest of the USA used the unit on a fixed wing single engine aircraft. Among other things it was used to image the Mount St. Helen volcano eruption. To achieve the necessary coolness to the image sensor they had to pour nitrogen into the system while airborne.

The first FSI system sold to law enforcement was in 1981, the purchaser was the Texas Dept. of Law Enforcement. The first Series 1000 unit was produced in 1981 and entered service with the San Bernardino Sheriff's Dept in California. The first Series 2000, arguably the most famous of the early flir units, was produced in 1982. The first user was the US Coast Guard.

As in the case of the gyro stabilised television system, it appears that British military development preceded the efforts at FSI. That may well be a false impression brought about by differing levels of security in the USA and the UK.

In Britain the military initiated at least three differing systems in different sections of the electronics industry. Each was to be known as a TICM. Thermal Imaging Common Module.

TICM I ["tickum one"] was developed by Thorn EMI as a lightweight direct view system. TICM II ["tickum two"], the heavier system for ground vehicle and shipborne use was placed in the hands of Marconi Avionics at Basildon, Essex. The TICM II was initiated in the same time-scale as the same company's tv system - 1974-75 - and defined by 1978. TICM III, was to have been a separate airborne system, but this was discontinued after it was found that TICM II was of equal use in airborne applications. Models were being produced in the early 1980s and sufficient examples of the B, or airborne, variant were available for the debut of the system in its first shooting war in the Falklands during 1982. Although marketed as if it were a full system in the 1980s, it was but a part of it. Much improved by advances in the performance of its periphery systems, TICM II remains in production and service in the late 1990s.

Ascribing the first availability of viable thermal systems to a specific country is difficult, particularly as details of developments in the Soviet Bloc are unknown. It would appear that in the mid-1970s the basic science behind the technology was sufficiently advanced for a number of countries to develop domestic operational systems with a range of capabilities that became generally available for use in the early 1980s.

The police in Greater Manchester, Merseyside, Strathclyde and Warwickshire each requested the presence of the HH fleet. At this time Capt. Crewdson's helicopters remained the only civil contractor available with the single down-link capable Marconi equipment. Its very uniqueness brought HH extra problems in trying to meet the sudden increase in requests relating to the Papal visit. The intention to provide the Strathclyde Police with a demonstration fell foul of a double booking error by HH and Marconi. Crewdson's staff had picked a day when Marconi had arranged a demonstration to a group from the army. Fortunately the mistake came to light before the day and the Strathclyde demonstration was re-scheduled. In the event both Merseyside and Strathclyde were unable to have the tv equipment for the visit and, after some juggling with times, HH restricted their operations to Warwickshire and Greater Manchester.

As both Greater Manchester and Warwickshire required the services of Heli-Tele many hours prior to the arrival of the Pope until the time of his departure from their respective airports, compromise was the order of the day. On the morning of Fridat May 28, 1982 Pope John-Paul II arrived from Rome at London [Gatwick] Airport and travelled by train to Central London. On the first day the itinerary was undertaken by train and car, leaving the first use of a Sikorsky S76 helicopter to start from day two, a day which included a trip to the centre of the English Church at Canterbury, Kent.

The primary use of the fast helicopter by the visitor resulted in the Metropolitan Police reluctantly deciding not to make use of their Heli-Tele system. Contrary to the reasoning behind the efforts of planners in Manchester and Warwick, use of the system was thought to have been of little use for ensuring the security of widespread areas of responsibility already secured by police in ground operations. The requisitioning of some vital spare parts for the system to be sent on the Falkland enterprise did not ultimately affect its police use. The real reason behind this decision was not entirely unrelated to the use of the Bell in escorting the Pope's helicopter. The Sikorsky was an important few knots faster than the Bell. On some of the longer stages the slower police helicopter occasionally struggled to keep up.

At 1500hrs on Day 2 of the visit, Saturday May 29, the pair of HH helicopters were declared operational to Coventry's Bagington Airport. The Bolkow was airborne and in contact with the Warwickshire Constabulary operational HQ at Leek Wootton. The unit was to remain available, if not actually in the air, until the same time the following day. On Sunday May 30 the Bolkow provided colour television [ctv] for day use [a minimum of 12 hours flying for each force area was specified] and TI for night [5 hours].

Special permission had to be sought from the MoD Procurement Executive to use the TI system. The new Marconi TICM II system was comparatively large, being housed in a similar size ball to the Heli-Tele. Steeped in secrecy, the Marconi staff were strictly warned that no pictures from it were to be released to the media prior to checking with the military. Where possible the operating staff were to avoid any conversation which might lead to a discussion of the merits and uses of the equipment. To the general public in 1982 the equipment was so little known and understood that it was the stuff of science fiction - Death Rays and the like.

Even the people who created the equipment were treated as outsiders in the field of thermal imaging, especially if they did not need to know. Further, although Marconi staff were to be operating the equipment, the conventional tv output and recording tapes were the property of HH and only to be released by them.

Prior to the arrival of His Holiness the Pope in Coventry on the Sunday morning, the Bolkow carried out all of the contracted security task. The back-up Alouette, expected to provide 6 flight hours in a supporting role, remained unused.

During a hectic day the Pope arrived at Bagington at 1000hrs and took a mass in the city centre, this being followed by a short drive around and a rest period. The visiting party departed from the airport to fly to Liverpool [Speke] at 1500hrs where a further programme of mass, drive around and rest period was undertaken. They stayed the night in Liverpool and 0820hrs on May 31 the

Papal Party left Speke to fly the short leg to Heaton Park, Manchester. The helicopter landed in the grounds of Nazareth House half an hour later, allowing them a brief respite prior to undertaking mass in the park at 0915hrs.

The Greater Manchester Police operated the helicopters from 1800hrs on May 30. The contractors sited their ground crew and fuel dump the flying base at De La Salle College, Hopwood Hall, Middleton, a Catholic Church run establishment three miles from Heaton Park. The operational HQ was sited in St. Peters School, Old Bury Road, Prestwich, a location which lay in the same grounds as Nazereth House and providing a good view of Heaton Park. The police component of the helicopter crew was picked up from Parrenthorn School, Heywood Road, Prestwich, about half a mile away from the HQ. Both of these sites featured an all weather landing area and flood lighting.

The costs associated with the operation were similar for each force and, in line with the arrangements made with the police in Warwickshire, accommodation was provided for the air unit staff in Manchester police premises. The major difference noted by the contractors was that only the GMP remembered to charge them for the room and board.

In addition to the police officers airborne in the helicopters, the BBC were using the *"Good Year"* airship *Europa* [N2A] as a camera mount for public network transmissions. At the 'Corporation's invitation an inspector was sent up in *Europa*
as an observer. He acted purely as a passenger, being unable to direct either the airship or the on board camera, his position remained that of a reserve observer if anything untoward were to occur.

At 1300hrs. The Pope departed from the helipad and flew the short leg to York Racecourse on the next stage of his visit. This operation effectively marked the end of Helicopter Hire's major league flying for the police in the UK. Helicopter Hire remained a leading service provider to the industry. In addition to the provision of aerial carriage facilities to Marconi, they branched out into acting as the providers of Heli-Tele to major broadcasting corporations such as the BBC using the Bolkow and other helicopters. On June 26, 1983 Captain Crewdson Chief Pilot and Managing Director of Helicopter Hire was killed flying the familiar company Alouette II G-AWAP off the East Coast on a seal colony counting sortie near The Wash. The helicopter crashed due to the failure of the main rotor. Crewdson's death resulted in the flying operations being taken over by other members of the family but, unfortunately, their best efforts failed to halt the operation getting into serious financial difficulties. Helicopter Hire ceased trading in December 1985.

After less than two hours holding a Mass in York the Papal Party moved on to Scotland. Meeting a typically punishing schedule, they were holding yet another Mass in Edinburgh that evening.

The following day, the penultimate day of the six day tour, took the Pontif to a long day in Glasgow. Unable to gain access to the television equipped helicopters, the police in Strathclyde Region hired in an Aerospatiale SA341G Gazelle, G-BBHW, from the McAlpine Group. This craft was simply an observation platform without any special sensors.

The final day included a flight from Scotland to Wales and events in Cardiff. Finally, they were able to leave Britain on a flight for Rome and the major security effort was able to wind down. Other than close security, provided by the Metropolitan Police, all of the costs associated with these measures undertaken in ensuring his safety devolved upon the local taxpayers, as a result the eventual cost, and effectiveness, of individual efforts varied tremendously. In many ways the very fragmentation of this security effort greatly increased its effectiveness.

In June 1982 a series of horrific shooting's took place in Lincolnshire and Yorkshire, events presaging a far worse event at Hungerford, Berkshire, five years later, but largely overshadowed by the climax of the Falkland's War.

On Thursday June 17, three days after British troops retook Stanley, the capital of the disputed

group of islands, a Harrogate police officer, Constable David Haig, was found shot dead beside his Ford Fiesta police patrol car. The 29 years old married officer lay at the Warren picnic area beside the B6541 Otley to Blubberhouses road at Norwood Edge. He had died from a shot fired from a .22" weapon.

With no evident clues, the death was a complete mystery to those of his colleagues tasked with investigating the murder. Fortunately the deceased officer had written a name, car registration and date of birth on his discarded clip board. These sparse details were to provide sufficient clues to link him to his killer within days.

The following Sunday at Torksey near Gainsborough, Lincolnshire, a 75 year old widow, Freda Jackson, was held hostage by a man for seven hours, the stranger leaving with food and money. A short while later this incident was linked to the death of Constable Haig seventy miles away. In the evening of the same day a farmer called the police to a car he had found on hidden behind a hillock and a tall grain crop at Hilltop Farm near Garforth, Yorkshire. The car, a Citroen GSX, bore a registration mark matching that on the dead officers clip board - KYF 326 P.

All was quiet until Wednesday June 23. On that day police were called to an isolated smallholding at Girton, near Newark, Nottinghamshire, by a woman suffering a severe head injury. The injured woman, 50 years old Sylvia Luckett, had crawled some distance for help after she and her 52 years old electrician husband had been attacked by a man holding them hostage. George Luckett was dead when the police reached the house. He like Constable Haig, had been shot by a .22" firearm. The Lucketts car, a brown Rover VAU 875 S, was missing. The loss of the Rover was circulated to all police as the numbers directly involved in the case rose dramatically with assistance being drawfted in by all surrounding police forces. After the deadly diversions to the south, on the evening of Friday June 25, the hunt was switched back to Yorkshire.

A North Yorkshire Police dog handler, Constable Ken Oliver, was conducting a road block on the north side of Dalby Forest near to the east coast when the occupant of one brown Rover car he had stopped fired on him and drove off. The car stopped a little further along the road and was set alight and abandoned. Already stopped earlier in the day by other less enquiring officers, the false number plates it wore were probably based upon a similar car sighted in nearby Pickering and had seen it safely through the police checks. The Rover had failed to satisfy Oliver, a fact that very nearly cost him his life. Fortunately, the bullet only grazed his nose, although another round injured his dog. This officer was able to put a name to the suspect having picked him out from a selection of photographs of likely suspects. A further damning clue was that the date of birth of the suspect, Barry Prudom from Leeds, Yorkshire, was 18.10.1944. The same date that Constable Haig had entered on his clipboard before being murdered.

The numbers of police employed were further increased, a figure of 400 was quoted in some quarters. Various police forces contributed firearms teams to the emergency, a number of heavily armed police, their features hidden under Balaclava hoods, being reported by a blood thirsty press corps. In spite of all these measures, on June 28 Sergeant David Winter was shot dead.

At 1410hrs a suspicious figure, clad in khaki jacket and blue woollen hat, was seen crossing open land between the main Leeds to Scarborough road, the A64, and the market town of Malton. While one officer, Constable Woods, called for assistance using the police car radio, the suspect was intercepted by Sergeant Winter near the Post Office. The man pulled out a gun and the unarmed officer was chased some distance before being shot three times in cold blood; the suspect again fled. Unfortunately torrential rain halted attempts at tracking the killer. Only hours before the shooting of the sergeant the investigating team of police had released details of the man they were certain was involved in the string of incidents. Barry Prudom, a 37 year old Leeds man also known as Barry Edwards was, like Luckett one of the victims, an electrician.

Although there was no immediate pursuit there was plenty to occupy the searchers, now swelled to some 600 men, on the following day there were 194 incidents and sightings to react to. The RAF, Army and Metropolitan Police answered requests for air support by despatching a West-

land Wessex, two SA341 Gazelle's and a Bell 222A respectively. The police helicopter, G-META, from Lippitts Hill was despatched on June 29, with a crew of two pilots [Captain's Ron Salt and Mike Briggs] two observers [Paul Clewlow and Paul Hammond] and a single engineer [Dick Harriman]. All three helicopters initially operated from a cricket square in Malton, but other sites, including the lawn of the town police station, were used later. By the time it returned to its Essex base on July 4 the police Bell had clocked up a total of 30 hours flying.

On Wednesday June 30, Eddie McGee, an ex-paratrooper who ran a survival school in Harrogate, and wrote on the subject, offered his services to the police as tracker. The police helicopter picked him up from home and flew him across the county into the centre of operations. Skilled weapons trained police manpower was hard to find in Britain in those days, and although the crew of the Bell were ostensibly in the area as a means of transporting armed groups to search locations, on a number of occasions they transported and undertook the armed search themselves equipped with a couple of inadequate revolvers. Although the London officers were a flight crew, they like many others were no strangers to the streets of Malton in between flights. In retrospect this included the uncomfortable realisation that they were present in the immediate vicinity of the area where the final act was played out on the evening of Saturday July 3.

Only hours later, Sunday July 4, seventeen days after Haig was shot dead, a telephone call was received at Malton police station from a local pensioner, Maurice Johnson. The call, at 0500hrs, revealed that he, his wife, and 43 year old son, had been kept hostage for twelve hours, bound and gagged in his own home, by a man who said he had killed the two policemen and Mr. Luckett. The part of the news that amazed the police was that the Johnson family lived at East Mount, only 400 yards from the police station. Prudom had slipped out of the back of the property into area surrounded by residential streets. Affording direct access to the police station it was open land and tennis courts fringed by bushes and substantial trees. The fugitives assertion that he was seeking to kill yet more police was ominous.

Alerted to his presence, McGee finally sighted Prudom close to the rear of the Johnson's house and called on him to surrender. At 0849hrs the shooting started. After some forty minutes, during which numerous stun grenades, shotgun rounds and bullets had been discharged, the final act was taken by Prudom. At 0946hrs, thwarted in his primary aim of killing further police, Prudom turned the gun on himself and took his own life huddled on the edge of one of the tennis courts, still 200 yards away from the police station.

It transpired that the first officer had been shot dead when he stated his intention of arresting Prudom for an outstanding assault charge from January 1982. Luckett had unfortunately attempted to use a gun on Prudom after being tied up by him and paid the price of failure. Once the shooting started he did not care to stop, especially where the police were concerned. His intention to take yet more police with him was fortunately thwarted by his failure to ensure that the Johnson's were silenced. The 11 day operation used 4,293 different officers in shifts drawn from police forces across Britain and cost the North Yorkshire Police in excess of £347,000.

Within two years of its formation, the success of the Metropolitan Police ASU, over London as well as in aiding other forces, called for expansion. Money was a little scarcer than it had been at the start of the decade, a factor not entirely removed from the cost of the recent war, and it was decided to look at the second hand market. The Bell 222 was, for all its faults, very popular with its police crews, but relatively low sales had resulted in few of the initial 222A model being available on the European commercial scene.

Fortunately the police were able to find one, and only one, for sale in the Midlands. Heart of England Helicopters Ltd., an air operation associated with a defunct building society were offering their executive trimmed Bell 222 G-JAMC at a reasonable price. Registered in January 1981 it was a little younger than the second police Bell, G-METB. It was delivered to Lippitts Hill wearing an unsuitable, but smart, external colour scheme of white, blue and gold. The 4/5 seat interior was even less suited for its future police role - with plush aqua blue seating and a high quality cocktail cabinet. After a short period assigned to crew training, CSE found time to accept the Bell

for a full refurbishment and conversion to the police role. Weeks later the helicopter returned to the police base in the standard police paint scheme and featuring a less salubrious level of furnishings, re-registered as G-METC from June 1983. One luxury from the original specification was retained. Unlike its two predecessors, “Charlie” featured air conditioning.

In a period where the rest of Britain was facing up to a future employing aircraft either permanently or on an ad-hoc basis, Scotland remained the poor cousin in police aviation. Aviation use was generally the result of some emergency which required excessive means being called in. Often it was as a result of the weather. The problem that such use created was that emergencies resulted in the direction of massive effort which brought about long term cash shortfalls in the police budget.

In the winter of 1978 severe weather resulted in the calling in of large numbers of helicopters to rescue stranded people and supply fuel and foodstuffs to cut-off residential area. Additional sorties were directed at air-lifting fodder to livestock in windswept snowfields.

In the early weeks of 1984 Scotland was struck by particularly severe weather. On January 21 and 22 the Northern Constabulary [successor force to part of the area that had operated Peeler III in 1968] used up to thirty helicopters in rescuing and assisting a large number of persons trapped in the severe storm conditions. The rescue operations involved members of the armed forces, mountain and dog rescue teams, motoring associations, broadcasting authorities and individuals as well as civil and military helicopter crews and police. It was seen as an exceptional situation which was difficult for the authorities to adequately recognise. On this occasion the answer to the problem was arrived at the following June by ensuring that the contribution given by each individual organisation was officially recognised with the award of an honorary testimonial by the Royal Humane Society.

In 1984 a year long dispute between British Coal and the National Union of Mineworkers provided an opportunity for another unusual aspect of police aviation to be experienced. From mid-March 1984 a call to strike was sent out to the miners of Britain from what was then the principal mining union, to lay down their tools over a low pay offer and pit closures. The police across the UK were faced with the provision of massive ‘Mutual Aid’ from all forces to those areas most affected, the Midlands and North. Other mining areas affected included Kent and South Wales. Generally large numbers of officers were required to spend five days of each week serving in the affected areas. The vast majority of these forces chose to transport officers from their home areas by road convoy, journeys which often resulted in long distances exhaustion and frequent break-downs. Only one force is known to have successfully broken with this ‘tradition’.

After three months of undertaking a gruelling series of weekly road trips from the Hampshire Police area to the mines, a new scheme was costed. Every Sunday night a convoy of loaded coaches or personnel carriers had set off on the six hour journey at a speed governed by the slowest [or most decrepit] vehicle in the group intent on arriving in the duty area in time for policing operations on the Monday morning. Often these convoys were travelling as slowly as 40mph, even without the effects of bad weather during the winter months. The whole process had to be reversed each Friday evening when the, often exhausted, officers were returned to their home county for the weekend. Most of this unproductive journey time was liable to payment at crippling overtime rates. Such were the spartan, sleepless, conditions endured by both vehicle driver and passengers during the mines duties that no officer was supposed to undertake more than one week at a time.

The new scheme looked at by Hampshire followed the suggestion that aircraft might be used to good effect. Initially this suggestion was discounted, but once it was properly costed it was found that when combined with the savings in overtime the idea offered the possibility of savings. It was to be a repeat of the scenario affecting Lancashire Constable McKenna’s trip to the Isle of Man over half a century earlier.

All future Hampshire Police trips to the mines were arranged to include flights. A variety of air-

lines was used to transport officers from Eastleigh or Hurn to the East Midlands Airport. They used a number of different 100 seat aircraft, mainly drawn from the Boeing 737 and BAC 1-11s operated by Orion, BIA, Monarch and Britannia. One of the cost savings related to the use of whichever airline had a suitable aircraft otherwise lying idle. Like all new things this operation did entail a learning curve. The first group of Hampshire officers sent up on this scheme with Orion in a Boeing 737 found themselves stranded in the Midlands as no-one had ordered them a return flight. On this occasion they came back by train!

Aircraft use reduced travelling time from the heart of Hampshire to East Midlands Airport to 25 minutes. Even with the addition of further trips of around 20 minutes at either end of the flight the saving was considerable. With the drastic reduction in travelling time it was possible for the officers to enjoy a longer weekend than had been possible previously. Although few were still allowed to work for more than one week at a time, the delay of the return to northern duty until early on the Monday represented sheer luxury.

It was not long before the mildly jealous officers of other forces had dubbed the Hampshire contingents with a variety of names aptly reflecting the relative luxury of their journey to work. As each of the regularly returning officers grew used to the novel mode of transport [many officers exceeded two dozen flights], and the flight crews also grew used to the police and their often twisted sense of humour, the atmosphere between the two changed from customer to colleague. Many high jinks took place. The least 'secret' of these short periods of hilarity related to the attempts of the female cabin crew to mime the standard safety drills in front of an audience of laughing policemen who were in turn miming the same drills they now knew equally as well as the airline staff. There were other 'incidents' of course, dates made with cabin crew, and of course there was the Superintendents in flight surprise ……

All things come to an end, and so did the Miners Strike. The lesson remained learned by Hampshire, but by the time they repeated the exercise to send officers on Mutual Aid to assist with the disturbances at the RAF Molesworth cruise missile base in 1986, all of the former light hearted contact had been irretrievably broken off. The later operation was in any case much shorter in duration and did not have time to rekindle quite the rapport of the 1984 flights.

It should be pointed out that this type of operation, whilst still unique in Britain, is taken as a matter of course in a number of other countries indeed, in many states the police operate their own airliners to transport officers across difficult terrain on a day to day basis..

There were no instances of direct involvement of police air support in the Miners Strike, for one force an attempt at such use was thwarted. Encompassing a traditional area of mining activity, the South Wales Constabulary were severely affected by the strikes, the picketing and police measures. As tempers flared some of those involved in the dispute undertook foolhardy acts, one of which led to a wholly innocent taxi driver being killed by a stone slab which crashed through his car windscreen as he drove beneath and over-bridge. Subsequent attempts by the police to obtain the services of a helicopter to undertake an area search were thwarted by the newsworthiness of the incident. No helicopters were available for the police to use, the media had previously hired the lot.

In June 1983 the police entered into a wholly ad-hoc agreement to use a Bell 206 JetRanger operated by the locally based helicopter operator, Veritair. Unfortunately due to an oversight this agreement provided no preferential treatment for the police in times of need and the company were unable to cancel agreed flights for the media and others. As a direct result of the difficulties identified during the Miners Strike, on June 6, 1987 a new formal ad-hoc arrangement was drawn up and signed between South Wales Constabulary and Veritair. The revised agreement ensured that the police would in future receive preferential treatment which ensured that emergencies would be catered for by the inclusion of a clause in all future non-police contracts. At the same time Veritair were assured of a modest number of hours each year for operational or training use, a factor which also allowed them to finance a modest increase in the fleet. This agreement was to lead to the formation of a permanent operation within a decade.

One of the police forces using the helicopters of Colt Executive Aviation on hire, Devon & Cornwall Constabulary, became the second UK police force to buy its own aircraft in the summer of 1984. Methodically building up its airborne hours since the summer of 1978, the 2,734 officer Devon & Cornwall Constabulary had been undertaking daily air support cover of their police area from Exeter since the financial year 1982-83. The population of less than 1.5 million was extended across two western counties occupying an area covering 4,000 square miles and extending 180 miles from east and west and 75 miles from north to south at the widest points. The 500 mile coastline is the longest of supervised by any UK police force. The effects of these statistics were compounded operationally by the decision to base helicopter operations in the grounds of the Police Headquarters at Middlemoor, Exeter, right in the east of the policing area.

The West Country force had continued to use Aerospatiale AS350 helicopters in the Colt fleet. Three specific helicopters had featured, G-JORR, G-PORR and G-SORR. The registrations reflected the surname of the former owner of the operation, Michael Orr. Late in 1984 Mitsubishi, the manufacturers of Colt Cars, ousted the Orr family and decreed that the non motor side of the business must go. Under new ownership the Colt Executive Aviation element became C and E Aviation which in turn soon became Helicopters (UK) Ltd. Thus Devon & Cornwall and Thames Valley were now both using the machines and pilots of the same company. Among the latter were the familiar names of Arthur Burland, Robert Kellie and Nick Holdbrook.

Before all of these developments had run their course, early in August 1984 G-PORR was taken out of service to be re-painted in new marks. It re-appeared as G-PDCC, marks reflecting the identity of its new owners - the Police of Devon and Cornwall. Whilst the force were elevated to the status of ownership, the change had little effect upon operations, the other helicopters in the Colt fleet continuing to fill the regular gaps created by engineering down time. Unlike the London police fleet the helicopter remained an unsophisticated air observation tool, there being no electronic sensors.

By the time it had been decided to purchase the helicopter, the ranks and numbers of the officers attached to the unit had long been decided. Under Inspector Brett Harvey, eight sergeants were selected to act as observers at the formation in April 1982. Initially these officers worked an average of one week in eight on air duties, the rest of their time being employed on normal police duties. Training was undertaken with the Royal Marines Air Squadron in Plymouth and the No. 22 Squadron RAF SAR flight based at Chivenor, Devon.

The size and shape of the area that the force policed dictated a number of operational parameters for the helicopter - force call-sign “Quebec Bravo 99”. In order to improve the overall performance margins of the helicopter, the crew was normally restricted to pilot and observer. By dispensing with the third person the helicopter could carry extra fuel or equipment and reduce the need for intermediate refuelling landings when operating in the west of Cornwall. Flying a Bell 222 to all parts of London might take only 15 minutes but a flight from Exeter to the Scilly Isles would take over one hour and effectively negate the use of air support in a response role. A further difference in the two operations was that in policing a largely rural environment devoid of police officers in any numbers, the AS350 observer was expected to be in a position to land, deplane and assist or arrest in isolated locations, thus leaving the pilot wholly alone. In addition the observer was expected to competently fill the roles of photographer, controller and paramedic.

The concentration on a two crew partnership was not singular, most US based forces use two crew, some just one, but it was to prove virtually unique in Britain in the face of a widespread preference for three crew members. This early decision was to lead to Devon & Cornwall to call upon a greater operational involvement from the civilian pilot and, eventually, the assistance of industry in developing one of the most unique and highly automated working environments within the UK police aviation community.

The initial selection of sergeants in the role of observer was a typical Devon & Cornwall Constabulary decision that had little or no operational bearing. A relatively small force with well devel-

oped conservative values, the rank structure was unduly important to them. The senior staff at Middlemoor considered that the extra costs involved in employing sergeants rather than constables was worthwhile for the extra authority they would command. The police in London had learned otherwise by experience and employed constables from the early 1970s. In later years other equally conservative police forces were to approach the same problem and, often prompted by tight purse strings, conclude that constables were more than equal to the task. It took Devon & Cornwall ten years to start employing constables.

The facilities for the air unit were basic. The helicopter remained based on an area of lawn on the east side of the Middlemoor complex with a converted flat providing offices which were still in use a decade later. The unit had a refuelling arrangement at nearby Exeter Airport, a facility clearly visible three miles to the east of Middlemoor. Normal hours of operation with the AS350 were set at 0900hrs. to 1700hrs. in winter and 1000hrs. to 1800hrs. in summer. In that respect the leisurely lifestyle of police air support did no more than reflect accepted current practice.

The second Metropolitan Police Bell, G-METB ["Bravo"], was undertaking its second patrol of the day on the morning of November 29, 1984 with five on board, Captain Robert Stubbs, Constables Brooker, Treacher and Hammond along with a visiting Chicago police officer, Patrick J Quaid. Predictably, with a foreign visitor to impress, the patrol was quiet and there were unusually few calls to respond to. The last of three calls was at 1036hrs. It was just days like that which provided ample ammunition for the "no patrolling" school of thought.

One hour into the flight, 34 year old Stubbs elected to fill in some of the remaining flight time with instrument landing system [ILS] practice on the approaches to the little used British Aerospace factory at Hatfield. Although in the county of Hertfordshire, the airfield lay only minutes north of the Metropolis should there be an unexpected reversal of their fortune in attracting calls to respond to.

The purpose of these ILS manoeuvres included keeping the pilot fully aware of the procedures to be followed when landing the helicopter at speed in the unlikely, but not unknown, event of a tail rotor failure. In the hover a helicopter with a single main rotor required a tail rotor to counterbalance torque [yaw], this need could be substituted for by speed, where increased aerodynamic pressure on the airframe provided sufficient counterbalance for main rotor torque. In the case of such a failure the procedure was to land the helicopter on a conventional runway in a similar manner to a fixed wing aircraft.

The approach exercises at Hatfield commenced at 1100hrs. At 1102hrs, as he slowed the helicopter down, Stubbs realised that, far from entering an exercise scenario, there was a very real lack of yaw control. As system and control checks were set in place it was confirmed that all power from the tail rotor had been lost - although it could be seen to be rotating, apparently quite normally, when checked visually. A full emergency was declared two minutes later.

Although there were a number of drills developed by the manufacturer to cover the specific problem of tail rotor loss, none guaranteed success. Having made the decision to land on the ample runway at Hatfield, the crew of "Bravo" circled over Hertfordshire intent upon burning off all excess fuel and thereby reduce the chances of fire. The sortie was scheduled to last until 1130hrs, so they had only a short while to wait.

On its final circuit, at 1124hrs, the Bell curved around toward Hatfield's 6,000 feet long runway 24 at a speed of 120 knots. All went well as the wheels were placed firmly onto the surface about half way along the available length in the centre of the runway. The engines were shut down and the fuel supply isolated as soon as the wheels touched. As soon as the speed began to fall away the aerodynamic forces on the fuselage also lessened and Stubbs found himself increasingly unable to counteract the torque of the main rotor with the brakes. The result was that the Bell started to veer to the left. The helicopter ran off the runway at an angle at a point 600 feet beyond the touch down. As the port wheel left the metalled surface it ran into a narrow strip of gravel designed to allow surface water to quickly run off the runway. Unfortunately it was never

designed to support the dainty wheels of a Bell 222. The fuselage started to roll to the left as it carried onto the lush grass beyond the gravel strip, and then the main rotor crashed into the grass…….

The Bell had careered almost 240 feet over the grass before the rotor made contact and caused the fuselage to pitch up and turn over. It came to a halt upside down 60 feet further on.

By incredible good fortune all five occupants survived the crash. All of them suffered injuries, the worst of which was the severely cut finger sported by Clive Treacher. This officer had, like the American, been aboard merely as a passenger on air experience. The reduced fuel load, and the copious amount of foam thrown on the wreck by the Hatfield crash crew, damped down any chance of fire breaking out. By the time the crash crew arrived to do their thing, covered in mud the five occupants had long set off in the opposite direction at high speed.

All helicopters react to this situation in a different manner, some were able to t. In this respect the design of the 222 provided features which all contributed to the final outcome of the accident. The type was offered with either wheeled or skid landing gear, the police aircraft having the former. The wheels were primary designed for vertical take-off and landing and short distance taxiing at low speed, nonetheless the tyres were quite adequate for high speed landing. Stubbs was effectively required to perform a landing on a hard surface runway at speed, a factor which ruled out a return to Lippitts Hill. Unfortunately, the nose wheel was not steered, it merely castored in response to aerodynamic or differential main wheel braking forces. There was always a likelihood that the torque of the rotor would tip the helicopter over, even without the precipitation of the gravel drain the wheels ran into. The additional fact that the main rotor of the Bell featured two large main blades, rather than the three or four of other types, resulted in the torque from these tending to exert somewhat harsher forces than the pilot could control at an earlier point in the slowing down phase. The lack of nose-wheel steering further reduced the pilots authority. The most important aspect was that the Bell was built to a particularly robust specification and those inside had been protected from the worst of the potentially fatal forces unleashed as the craft rolled to a halt. Although the exterior had suffered the integrity of the cabin had remained and probably the worst effects had been caused by the mud and grass entering through the broken chin glazing.

The mud spattered “Bravo” was a sorry sight and instantly assumed to be a write-off. It had come to rest, partially burrowed into the rough grass and upside down, with the rotor head devoid of blades and sunken into the soft ground. The main damage to the three years old helicopter was evident on the rotor head, engine bay, cabin roof, sponsons and left horizontal stabiliser, but it seemed that every panel had been thumped - hard and often.

On December 3, the mortal remains were transported fifty miles from Hatfield to the base of the accident investigators at the Royal Aerospace Establishment, Farnborough, Hampshire.

The fault that had caused the original failure of the tail rotor drive was traced to the fatigue failure of an aluminium alloy spigot incorporated in the yaw control linkage of the tail rotor system, immediately to the rear of the engine bay. Following the fracture of the part the tail rotor became disconnected from the rudder pedals, thereby depriving Stubbs of control and depriving the rotor of any thrust. As witnessed from the cabin, the drive to the rotating blade was unaffected, it was just turning ineffectually. In the crash the blades had suffered no obvious damage.

The part involved in the failure was young and had recently been replaced under a Bell modification scheme. In the light of the AAIB findings the manufacturer accepted that the cause lay with their modification and agreed to fund and undertake the complete repair and refurbishment of the 222. Accordingly it was shipped across the Atlantic and rebuilt during 1985 and 1986. Its loss, albeit temporary, placed an increased strain on the remaining two aircraft in the fleet. With three airframes to share the load it had been relatively easy to undertake not only patrol duties in London but also assist other forces with their special event needs. Nonetheless in 1985-86 the unit was able to meet a range of requests for assistance including those by Cambridgeshire [April 7-

8], Northamptonshire [Silverstone in May], Staffordshire [a Royal Visit to Stoke-on-Trent in August 1985] and an ACPO Conference presentation in Lancashire [Hutton HQ in September 1986].

CHAPTER TWELVE

What goes up ……..

Within months of the temporary loss of the London Bell a further disaster struck the world of British police aviation. On this occasion there was to be no miraculous escape for the police officers involved.

Since 1979 the Hampshire air unit had progressed towards a point where it seemed reasonable for them to consider the purchase of an aircraft. There had been numerous approaches by manufacturers eager to interest them in a variety of, largely unorthodox, flying machines in the mould of the Wallis and Gadfly autogyro's. In the meantime they retained the tried and trusted high wing Cessna's.

During the latter months of 1982 British police were being targeted by the sales teams behind the British designed Edgely OA7 Optica project. Edgely Aircraft Ltd., was a new company based at Old Sarum airfield near Salisbury, Wiltshire. A clearly radical design it promised to provide police and other agencies with a three seat light observation aircraft with the economics of the familiar Cessna single but offering its crew visibility equaled only by the best helicopter design. Although unable to hover like a helicopter, it offered a wide view forward, upward and downward; like the twin-engine Partenavia Observer, but far better. A speed range of 50 mph [80km ph] at the stall to 164mph [264 km ph] was possible. The craft achieved the excellent visibility by placing the engine and propulsion fan behind the cabin. The aircraft was seen as the perfect answer to everyone's problems, a not unusual claim put forward for a new and untried type. In retrospect the performance claims were not to be born out by operational experience.

In producing a light observation aeroplane, the designers effectively consigned their design to the first generation of modern law enforcement aviation. The Optica was a design almost wholly reliant up visual observation and it would not have successfully undertaken the transition to the carriage of the modern flir and tv sensors that equip most police units across the world. The balance of the aircraft was the source of a major problem, one that would have been further exacerbated by attempting to carry a sensor pod. Configured as a two seat machine, to enable it to carry a third person in the centre seat position required the time consuming removal of counterbalance weights from the front of the cabin and stowing them in a panel in the rear of the airframe. At best this was an unnecessary chore, one to be avoided in the case of an emergency flight. Additional problems related to the design and its flimsy nature. The two doors, very large oval sheets of Perspex with a light frame, were flimsy and exposed to the vagaries of the wind. As they could not be opened in flight, the passenger door was fitted with a removable clear view panel. One of the greatest complaints levelled at the Optica was the low level of aeronautical engineering experience it displayed. Minor details such as the type of original draught proof sealing around the door showed clear signs of under-engineering and the taking of cheap options. Rather than an efficient continuous moulded draught proof seal around the whole door, even in 1990 the manufacturer was using a number of lengths of proprietary household door sealer segmented to stop draughts. The development of the type was destined to be a catalogue of major and minor setbacks and aircraft losses, and yet there were so many believers in the brilliance of the basic concept that the Optica offered that time and time again the customers re-appeared.

One of the claims put forward was that the Optica could be operated for much the same cost of a car. A package was being offered which envisaged a lease of £10,000 a year plus running costs of only £22 per hour, equal to 27 pence per mile. Over the years of its protracted development the figures were to go awry and in a Home Office comparative type test undertaken a few years later it was demonstrated that far from being cheaper the costs of operating the Optica were similar to operating a light piston engine helicopter.

The type was offered to, and tested by, a number of police forces, but it fell to Hampshire Police to take the greater part in the project and effectively test the type for the Home Office. Hampshire had first been acquainted with the bright yellow prototype of the Optica [G-BGMW] in September 1982. The light aircraft had served the police on traffic spotting duties at the SBAC show at Farnborough whilst appearing there itself as an exhibit. The police requirement was for daylight, VFR, use allowing continued use of relatively untrained police officers in the role of pilot. License requirements were set at Private Pilots License [PPL]. In later years the requirement was to change and the more advanced Commercial Pilots License [CPL] became the minimum. At that time a requirement to hire a commercial fixed wing or helicopter pilot would undoubtedly have resulted in the air support project in Hampshire being cancelled.

Hampshire agreed to enter into the Home Office sponsored trial of the Optica and moved base to take up residence on the Royal Navy Fleet Air Arm base of HMS Daedalus, Lee on the Solent. The coastal airfield was little used naval operations, being primarily the site for an engineering school. The flying that was undertaken was restricted to flights by Chipmunk trainers, Wessex ASR helicopters and military hovercraft. Six years after the first Optica flew, the aircraft assigned to the Hampshire trial, the fourth airframe but the first completed to production standard, was re-registered from G-BLFD to G-KATY and supplied on a lease agreement by Air Foyle of Luton for training and type conversion.

The Hampshire Police unit had built up three fully trained part time crews to respond to an average of eighty sorties each year. By 1984 the number as rising inexorably as the officers on the ground grew used to using the facility. From 1983 when they helped Thames Valley with the problems at Greenham Common they started to undertake aid duties to a number of neighbouring forces. The six officers attached to the 1985 unit were:-

Chief Inspector Robert Ruprecht	Pilot
Sergeant John Shoobridge	Pilot
Constable Gerald Spencer	Pilot
Sergeant Eric E Hills	Senior Observer
Constable Peter Churchward	Observer
Constable R Tilley	Observer

At last the training period was over. On May 15, 1985 the Hampshire Police ASU undertook its first operational mission in their new aircraft using the call sign “Boxer 3”. The important flight was undertaken in a light southerly wind of 10 knots in hazy conditions. The pilot of the police Optica on what was to be a traumatic day was 37 year old Gerry Spencer. The officer, nineteen years in the police, was accompanied by Malcolm Wiltshire, a police photographer tasked with taking some photographs of the traffic in and around the town of Ringwood on Market Day.

As the white machine orbited quietly above the town for the third or fourth time it was seen to slowly descend from 800 feet to a height judged to be around 100 - 150 feet. The Optica then entered a steep, but probably controlled, turn to the right. Seconds later the angle of bank suddenly increased to around 90 degrees, at which the aircraft entered into a steep spiral into woods. About 20 seconds later a fierce fire broke out. The crew perished and the wreckage of the flimsy aircraft was totally consumed by the fire.

The majority of the subsequent investigation relied upon reports from witnesses on the ground in and around Ringwood. None of the radio transmissions from the aircraft to the local air traffic

control gave any clues to the cause and neither did the scorched crash site.

Despite the best efforts of the investigators, it was not possible to positively identify the cause of the either the initial descent or the loss of control. The most plausible explanation put forward as the cause for the tragic loss related to fuel starvation. The Optica was fitted with a three position fuel selector switch sited to the rear of the centre, passenger, seat. This was one of a number of glaring ergonomic failings that the type exhibited. Investigators suggested that it would have been relatively simple for the switch to have been moved to the “off” position in error and resulted in fuel starvation to the engine. If this was the position; it is unlikely that Gerry Spencer was ever in a position to realise that the fuel switch was the cause of his engine cutting just before the crash.

As a result of this disaster, both the Hampshire Police ASU and the manufacturers of the Optica, Edgeley Aircraft Ltd., were put into a state of turmoil. The police were able to come to terms with the setback reasonably quickly. After an initial period of being shut down, in August 1985 the original crew members returned to operate a Cessna 175 [G-ARWM] from the 1,647 feet long strip at Chilbolton near Andover. Family pressure resulted in two members of the team requesting relief from the post.

The previously promising market for the Optica took an immediate turn for the worse as customer confidence evaporated in the face of the unknown cause of the crash. Even when the report came out there were precious few crumbs of comfort to be gleaned from it. Total sales of the type had stood at a creditable 82 prior to the accident, but these did not result in that number of aircraft being delivered to customers. Soon the company was calling in the official receivers. A new company, initially headed by Alan Haikney and later by Alan Curtis, took over the aircraft project and attempted a turn around in its fortunes early in 1986. On April 14, 1987 the company, Brooklands Aircraft Co. Ltd., suffered another near fatal blow when the Old Sarum factory was gutted by a fire, believed the work of an arsonist, and lost a number of complete airframes.

While not averse to using military helicopters on traffic spotting at the bi-annual Farnborough shows they were still firmly wedded to the fixed wing solution to air support. In 1987 the police in Hampshire returned to the type - now developed into the OA7 Optica Scout. Also interested were the police forces of Gwent and Avon & Somerset. Ultimately, the extra interest was not to lead to further police customers. At a cost of £140,000 Hampshire purchased the 16th Optica, G-BMPL, in 1987 and once again set up operations in unused naval buildings at RNAS Daedalus.

The adjoining force of Wiltshire Constabulary, started to set up a helicopter operation centred on the police headquarters at Devizes during 1985. On May 29, operations commenced with an initial 36 day trial using a Bell JetRanger to assist in the coverage of the gathering of large numbers of mainly itinerant individuals attending the celebration of the Summer Solstice at the ancient monument at Stonehenge. Situated in the geographical centre of Wiltshire, Devizes was an almost perfect location for basing the helicopter.

Many aspects of the Wiltshire operation reflected the reasoning behind the setting up of the Devon & Cornwall operation five years earlier. It was preferable to bring in air support for a continuous period of time if a specific need could be identified. The trigger for the birth of Wiltshire air support in 1985 had been the use of the Devon & Cornwall AS350 on mutual aid during 1984. Wiltshire were embroiled in the eviction of a so call “Peace Convoy” from woodland during the Summer Solstice period when the neighbouring helicopter was requested. As a result of this experience the crews trained at Exeter and practices in the early unit reflected that contact. In 1986 a similar operation was undertaken for 24 days over the Solstice period using Aerospatiale AS350B G-JRBI. The helicopter was supplied by Staverton based Helicopters UK Ltd., a company formed by a former Colt Executive and Army Air Corps pilot Robert Kellie in co-operation with Police Aviation Services Ltd. In meeting its police contracts the new company also had the use of another AS350 from Colt, G-BMIF. Assisted by this period of initial flying experience, in one form or another air support in Wiltshire has remained ever since.

The police in Hertfordshire sought a different solution to the use of aircraft in support of police duties in June and July 1985. Hertfordshire was not a high crime area, there were few real opportunities for producing a good case for extensive use of air support in the political climate of the time. One area of flexibility related to the numerous public order activities undertaken in Knebworth House near Stevenage. The site of a large country house which was itself open to the public on a daily basis, the Knebworth parklands regularly hosted large gatherings for a range of bodies, the most troublesome of which were regular outdoor pop music concerts. In 1984, in what was probably the first direct experience of air support, a helicopter had been used to undertake duties over and around the park.

Furthering a Home Office wish to trial the type, the Welwyn Garden City based force used a Grob 109B light aircraft operated by Bowker Air Services Ltd on police trials in 1985. Bowker was a small crop spraying business based on the small Codicote airfield at Rush Green, west of Stevenage. In an operation organised by Inspector Peter Seaman, four experienced pilots, Bill Bowker, Alan Johnson, Colin Stevens and Desmond Penrose, were teamed up with three police observers to provide air cover of up to ten hours flying each day over an initial period of twelve days. The police allocated three sergeant observers, Richardson, Bailey and O'Connell, on duty in shifts between 0600 and 2200 daily. Each police officer already had air experience, albeit of a dissimilar nature. One was an ex-RAF Lightning fighter pilot, another an experienced balloonist and the third had undertaken the Civil Defence WDO training.

The Grob, registered G-BLMG, was provided with the addition of POLICE marked under the starboard wing, but other than the fitting of police radio the only role equipment was provided by the observers with their still and video cameras.

In their flights over the Hertfordshire motorways [M1, M25 and A1(M)] Hertfordshire found the Grob to be a fairly handy type not plagued with too many shortcomings. Capable of a speed range of 65 to 95 knots [71 -104mph], it proved cheap and capable of providing the required overview of the crowds and traffic. To its detriment it was found that the type, virtually a motorised glider, was fragile, limited in the amount of payload it could carry and particularly susceptible to the vagaries of wind and weather. In addition to these points the police observers reported that even in the best of weather conditions the cockpit was cramped, making it difficult to manoeuvre the cameras to take photographs through the very small clear view window in the canopy.

The advancement of aviation with the police in Hertfordshire was not rapid. There were instances of commercial hire for special events, not all of which were related to events at Knebworth, and co-operation with the military, but it was not until the early 1990s that they started a period of co-operation with the police in Bedfordshire and Thames Valley that led to the formation of the Chiltern Police air unit.

During the summer of 1986 the annual ACPO Conference received a commercial presentation of Top Shot, a range of camera carrying aerostats, captive balloons, from its promoters, Fairoaks based Flying Pictures. Flying Pictures was a small company owned by Thorn-EMI with strong Marconi links in its staff, a number of them had worked on the Heli-Tele equipment prior to moving on to pastures new. The company marketed its own type of gyro-stabilised video turret, the Europod, a number of which were to be employed by UK police units. In the presentation to the police chiefs one of the Europod's was slung beneath a Top Shot and displayed the transmission of the lofty view. The proposal was that this equipment would serve as an economic means of placing a camera in the air over major, pre-planned, incidents.

The aerostat's ranged in size from Top Shot 85, the smallest with a gas capacity of 85 cubic feet and a modest payload of 35 kg, through the 220 and 270 to the largest in the range, the 350 which offered a payload capacity of 115 kg. The police system used the 350. After the ACPO presentation arrangements were put in hand to run a field trial. The result of a trial with Lincolnshire Police in the summer of 1987 was an appraisal report praising the capabilities of the system and the clarity of the pictures collected by the pod mounted camera.

The over riding reason for this system not being adopted lay in the conscious decision by Flying Pictures not to pursue intensive marketing of Top Shot to the police. There were the perennial problems associated with the static camera system in police service, many of these had been highlighted over Epsom sixty years earlier, most of which would in themselves rule out the purchase of the aerostat, the expensive camera pod and support vehicles. It may have found a niche market if the company had been willing to travel the country with the equipment to meet irregular police demand at a number of major events, but in the event they chose to confine their services to the movie film making market, it was far more lucrative.

After undertaking a detailed, year long, study of operations by the Devon & Cornwall police helicopter, the officer in charge of the unit and one of his pilots, Chief Inspector Brett Harvey and Captain Paul Hannant, persuaded the police authority that the time had come to change the type of helicopter in use. The single engine AS350 had been a great success, but the pair were now able to prove that it was becoming performance limited for the potential they envisaged. As part of the research the pair visited Germany to examine the products of the MBB factory and the Bavarian Police. The latter had been operating helicopters for over 20 years and then had a dozen examples of the Bolkow 105 A and C models which had been built at the MBB factory.

The team from Exeter chose to order the Bo105DBS, a stretched version of the standard model which offered greater cabin volume offering room for up to six passengers. In October 1986, this helicopter was the first of its sub-type to be imported into Britain and registered G-DCCH. After the introduction of the newcomer to service, after two years in police operation, the AS350, G-PDDC, was sold in Sweden at a profit. The cost of the Bo105 reflected the current high inflation rate. At £750,000 it cost the same as the first London Bell 222A some six years earlier, but the sum was for a smaller less well equipped machine.

In comparison with the displaced AS350, as well as safety in the case of failure, the twin engines offered a far greater lifting capacity and IFR operation with a single pilot. Integral 450 watt public address system speakers included a feature which allowed them to be operated remotely from the ground, and then there was the capability of carrying two stretchers and a comprehensive first aid kit, still and video cameras, integral and hand held radio systems and a 30 million candlepower SX-16 Nitesun searchlight. The provision of the nose mounted searchlight was an advance in night operational capability then rarely displayed. The London Bell's had the light, but it was rare elsewhere. In fairness the 60 lbs [27kg] weight penalty and inconvenience of the SX-16 was such that it was often left off for daylight operations, particularly on the Bolkow. The Bo105 also featured an under-belly load hook - another rarely specified equipment option.

Even as the Bolkow entered service it was realised that it was not fully capable of undertaking unrefuelled operations across the length and breadth of the force area. The normal operational crew complement remained as one pilot and one sergeant observer. As before there remained a large box in the rear seating area to accommodate the large range of maps required to cover the whole 2½ million acres of the counties of Devon and Cornwall. That alone equalled the weight of one passenger. Furthering the inexorable erosion of the helicopters operational capability, another 45 lbs [20 kg], came about with the later addition of a Flying Pictures twin sensor turret forward on the port side. Air support in Exeter was to prove a never ending battle against weight growth.

The arrival of the Bo105 allowed the unit to spread its wings somewhat. It was not very long before, in addition to training their own officers in the art of air observation, similar courses were being offered to officers from other yet to be formed police air units across the UK. Although an important element in the late 1980s, this activity died down in later years with the opening of new rival units which offered similar facilities.

When Myra Hindley and Ian Brady, the Moor's Murderers, were sent to gaol for killing a number of children in the Manchester area in the mid-1960s they cannot have envisaged the means whereby they were to return to the scene twenty years later. In the autumn of 1986, Detective Chief Superintendent Peter Topping, the Manchester police officer leading a renewed search for

the bodies of victims not traced at the time, arranged for Hindley to be temporarily released from prison. Released into police custody, Hindley needed to be transported from the south some 250 miles to the Saddleworth Moor area without attracting the attention of the media. In an unsuccessful attempt at thwarting the media it was arranged that the move would make use of one of the Metropolitan Police 222A helicopters.

At 0550hrs on December 16, Myra Hindley was driven in convoy from Cookham Wood Prison to the Kent Police headquarters in Maidstone where the party met up with Bell G-METB. Meanwhile the, suitably mislead, press corps believed that the flight originated from Lippitts Hill. The large party on board the police helicopter for the trip to Saddleworth Moor required two refuelling stops, the last of which was at Woodford, twenty miles from the 'Moor, at 0800hrs. The bleak weather created severe problems for the helicopter operation. The severe cold and low cloud-base precluded an easy landing on the chosen site and the Bell put down at an alternative location two miles away. Although equipped with instrumentation for flight in poor conditions, the weather finally drove the helicopter back to Woodford, at which venue the party had to rejoin it hours later for the return flight to Kent.

During the course of continuing enquiries into the murders Myra Hindley and Ian Brady both visited Saddleworth Moor on further occasions. Topping did not repeat his use of the helicopter. It was found that the use of surface transport was more covert albeit at the cost of requiring the prisoners to undertake overnight stays away from their usual prisons.

Further north, in Scotland, police aviation was still struggling to gain headway against financial restraint. As was suggested by some of the operations undertaken in the 1968 Aerial Peeler trials, there was always going to be extensive co-operation between the military and the police, especially in the field of mountain rescue.

The regular point of contact was between the crews of the helicopters assigned to Air/Sea Rescue and the volunteers attached to the civil mountain rescue teams [MRT]. The military maintained its own air and ground rescue teams to serve what was originally intended to be a military personnel rescue formation. It was the fortune of hundreds of civilian walkers, climbers and civilian sailors that their rescue was excellent training for the prime military role of rescuing downed pilots.

One of the numerous civil rescue teams operating the often dangerous ground task on a voluntary basis was the Killin MRT. Financed by local subscription, donation and local government subsidies, the unit was administered, trained and equipped by the Central Scotland Police. Membership comprised a mixture of local people and police, each of whom underwent training to augment an interest in mountaineering. Part of the training included helicopter familiarisation at RAF Leuchars.

Early in 1987 the leader of the Killin MRT was Sergeant Henry J G Lawrie. This 47 year old officer had 26 years service in the police, of which almost half of which had been as a sergeant in the Killin and Callander areas and closely connected to the MRT. He was awarded the British Empire Medal [BEM] in the Queen's New Years Honours list in 1987.

At 1547hrs on Sunday February 1, 1987 a "999" emergency call was received at the police control room in Stirling. The caller, Werner Kittel, reported that his walking companion, a 27 year old Edinburgh film maker Sarah Noble, had been seriously injured on the north side of Ben More, Crianlarich, over an hour earlier. It was cold and snow lay on the ground.

A message was sent to Sergeant Rose, an officer then engaged with enquiries into an earlier fatal accident, who telephoned the various members of the MRT and arranged for them to meet him at Benmore Farm near the scene. Almost an hour later the 34 years old language instructor Kittel arrived at the farm in an understandably distressed state. Although he thought that the injured climber was still alive when he left her, he believed that she was quite likely to die of her injuries soon if not rescued. Shortly afterwards Sergeant Lawrie requested helicopter assistance,

as members of the MRT met up with another climber who, whilst climbing down Ben More, had found a woman's body and was on his way to alert the emergency services. She was undoubtedly dead but, with the pressure off, the team had a more precise location for her.

Appraised of the new situation, the Rescue Co-ordination Centre, Pitreavie, Fife, allowed the helicopter to continue to Benmore Farm as it had already left its base and was due to arrive at 1735hrs. The helicopter despatched was an 22 Squadron RAF, "B" Flight detachment, Westland Wessex HC2, XT674, piloted by Flight Lieutenant Hugh Pierce with Flying Officer Christopher Palgrave as his navigator and Michael Anderson as Winchman. Wing Commander Rodgers, commanding officer of 22 Squadron, was an additional passenger.

It was dark by the time the helicopter arrived at the farm. The aircrew decided to take members of the Killin MRT to assist them both in locating the body and to enable them to be dropped in the vicinity of the location. As they were both suitably dressed for the flight, Sergeant Lawrie took Constable Joseph Ramsey with him in the Wessex. Leaving Wing Commander Rodgers at the farm, they took off at 1745hrs and commenced an air search of the north face of the hillside with the aid of powerful searchlights attached to the undercarriage. The remaining members of the ground team set off to start their own search of the lower slopes.

After checking their bearing with the observers remaining at the farm after ten minutes it was found that the Wessex, visible by virtue of its searchlights, was searching the wrong area. The helicopter moved westwards only to find that the wind and down-draught at the new location were unfavourable. On safety grounds it was decided to abandon the air search and drop off the Killin MRT pair wherever they chose. Sergeant Lawrie asked to be dropped off near to the ground team.

In seeking a suitable landing the pilot, Hugh Pierce, descended from a high hover with the fuselage of the Wessex parallel to the hillside with the starboard door, locked in the open position, facing onto Ben More. Flying virtually blind, he was acting primarily on the commentary given by the winchman, Michael Anderson.

One of the greatest dangers in such manoeuvres in close proximity to steeply sloping ground in the dark was that of the main rotor blades striking the ground. At about 1800hrs this is exactly what happened to the Wessex. The first the occupants inside the Wessex knew of the impact was the loud bang, immediately followed by being physically flung off their feet by an unseen force. For the two policemen it was worse. Most of the crew were still restrained, but the pair had unstrapped themselves from their seats in preparation for their deplaning. Ramsey was flung to the rear of the Wessex as the stricken aircraft bounced and slid down the slope on its starboard side, tail first. Fire broke out. The members of the approaching Killin MRT found themselves in the path of the big helicopter and were obliged to scatter in all directions as it careered towards them in a ball of flame.

Ramsey fell free of the fuselage via a hole created by the tail breaking away, only to find himself following the wreck down the slope, overtaking, then colliding with it and finally passing it when it stopped. He was found to have broken his right femur and some ribs. Pierce was still strapped into his pilots seat and able to operate the built in fire damping system as well as tackle the blaze with a hand extinguisher on his own. Chris Palgrave, the navigator, was sitting on the chill grass but framed by the open starboard doorway and enclosed by the fuselage. He made his way towards the gaping hole at the rear of the aircraft and found Anderson who lay in a heap near the rear of the damaged cabin with a serious knee injury. As one member of the Killin team fought the fire others extricated Anderson through the hole.

Sergeant Lawrie could not be found in close proximity to the burning Wessex, however a trail of blood was found in the snow as the injured were removed from the immediate vicinity of the blaze. The sergeant was found further down the hill, lying on his back and displaying severe injuries. He was obviously dead.

A “Mayday” had been immediately called up by the MRT on site, a call acted upon by the watchers at the farm. Once alerted to the new situation, and RAF MRT, in the area by chance, set off towards the glow they could see on the horizon. These teams were the first outside help to arrive and move the injured to a suitable helicopter landing location. The civilian aid mission had turned upon itself and was now a military personnel rescue.

A Sea King helicopter was despatched from RAF Lossiemouth, almost 140 miles away . It arrived at 2010hrs and took the injured to the Royal Infirmary, Stirling, 30 miles away. The body of Sergeant Lawrie was taken to the mortuary at the same hospital, his wife, Jane, had been among the horrified watchers at the farm and knew that he was inside the Wessex. Lawrie’s death occurred before the formal presentation of the BEM could be made. The object of the exercise, the search for Sarah Noble, was called off for the night, to be finally recovered at 1030hrs the next day. It was 200 yards above and 400 yards east of the crash site. PS Lawrie’s eldest son, Gary, served on as a PC with the Central Scotland Police and was later a rescue co-ordinator with the police and civilian Lomond MRT.

A little more han three months later, hundreds of miles to the south, the seeds for more tragedy were being sown in the skies over London. On Wednesday May 6, 1987 at 1335hrs. the Metropolitan Police Bell 222A G-META took off on a patrol over London from the Lippitts Hill helipad. The occupants of the helicopter were:

Captain Michael John Barry, 42	Pilot
Constable Terry Worts, 53	front observer
Constable Brian Donovan, 36	rear observer
Constable Debra Woolley, 27	passenger
Constable Rae Denise Wales,	passenger

Captain Barry was, like all police flyers, a very experienced pilot. At the time of the flight he had amassed over 11,300 hrs, over 600 of which were on the Bell 222. The two woman constables were being carried as passengers on flight experience training as part of their training with the communications branch at New Scotland Yard.

The aircraft had carried out a full programme of patrols during the early shift commencing at 0800 that day, no technical problems had been reported when it had landed. During this first patrol of the late shift they were assigned to of six emergency calls at diverse locations in the Metropolis At 1445hrs., whilst flying at the normal patrol height of 1,000 feet at 100 knots airspeed to the north of the Greenwich Royal Naval College the pilot noticed an instrument indication that the No.1engine power turbine speed had fallen to 40%, recovered to 100% and then fell again to zero. All other instrument indications were normal. Such a display on the instruments was rare, but most fluctuations were a result of instrument failure rather than a fault with the equipment it was monitoring. Nonetheless, with the flight approaching the end of its intended 75 minute length, the pilot heeded the warning and elected to return to Lippitts Hill, some 4 - 5 minutes flight time away.

The cabin of the Bell 222 is noisy, with two engines running only inches above the headlining, the headset earphones serve as a noise reducer and a means of easing cabin communication. Two minutes into the return flight an increase in background noise on the intercom system was evident. The noise was traced to the microphones of the occupants of the rear seats, the two passengers and the rear observer, and was evidently an ominous background rumbling coming from the area of the engines above their heads. By the time the Bell and its five occupants were about ½ mile south of the base, over Chingford, the noise was very evident even without the enhancement of the microphones.

The topography of the ground below was unsuitable for a precautionary landing. Although the flight path into Lippitts Hill clears areas of dense housing some distance before the landing pad, the countryside is a mixture of woods and sloping land which are best avoided in anything but dire circumstances. At a speed of 40 knots [50mph] and with the radio altimeter indicating a height of 50 feet, they were crossing the Lippitts Hill perimeter boundary fence as an explosion ripped apart No.1 engine. The resultant debris peppered the surroundings, causing severe dam-

age to the No.2 engine and sections of the airframe. Engine debris was found in the police horse paddock immediately to the south of the landing area. To the strident sounds of the low rotor speed warning the helicopter thumped down on the grassed area between the paddock fence and the landing pad and rolled forward to a halt. Exactly on the “H” of the pad.

The crew and passengers, all uninjured in spite of the hard landing, evacuated from the left side of the Bell as Captain Barry remained behind to shut down the systems and successfully deal with a small fire that had broken out in the devastated engine bay after the landing.

As it appeared to be neatly parked on the landing spot, to the casual observer there appeared to be very little wrong with the Bell. It was only upon close inspection that a number of the dark patches in the white of the engine covers were not manufactured grilles and inspection covers They revealed themselves to have jagged edges where rogue engine parts had crashed through them. In addition to the two wrecked engines and a multitude of debris peppered panels in the exterior and cabin area of the helicopter, “Alpha” had landed with such force as to severely distort the rear tail boom just aft of the engine bay. In its own small way the crash, and the technical background to it, had far reaching consequences for the Bell 222, police aviation and future helicopter design.

Alpha was pushed into a hanger at Lippitts Hill to await the deliberations of the Air Accidents Investigation Branch [AAIB]. It was destined to remain there for four years before being rebuilt and returned to the flight line. The AAIB report appeared in 1988. Clearly the investigation centred around the Avco Lycoming LTS101-650C-3 gas turboshaft engines. It was concluded that the No.1 engine power turbine burst through overspeeding because a fatigue failure of gear wheels in the gearbox disconnected it from driving the rotor. Debris from this burst penetrated the No.2 engine casings and severed the tail rotor drive shaft. The report highlighted a number of contributory excessive wear incidents with the LTS101, one of which had involved the very engine that had failed. Only six months earlier another engine in another aircraft had also failed in a similar manner on the approach to a landing It was not a dire situation, but it was sufficient to raise awareness about the need to monitor the engine type, and how to ensure that thoughts were directed towards designing out such double engine failures through uncontained failure damage in the future.

A problem that soon presented itself was that the hull was under-insured. This oversight resulting in a chronic lack of finance for either an immediate rebuild or a replacement helicopter. It was decided to hire in a replacement helicopter while the matter was resolved. With the pressure for a decision being removed it became the easy option to let the unit continue using a leased machine. In the event, over the four year period that Alpha remained under a dust sheet at the base the meeting of charges relating to hire of a replacement machine amounted to the purchase cost of at least one more helicopter. The Bell 222 remained a rare type and the decision was taken to use the Aerospatiale AS355F. A succession of these helicopters was hired from McAlpine Helicopters at Hayes, West London. After using G-BNBJ and G-NUTZ among others, in May 1988 McAlpine’s acquired G-BOSK which became the primary helicopter for the contract.

In itself the temporary introduction of the AS355 brought about few procedural changes in the Metropolitan Police operation. The differences there were affected the view available to each of the crew members. All round visibility for the front observer and pilot from the front seat of the 222 was always good, but the arrival of the French type gave the rear seat observer a new vista in that although still seated on the starboard seat behind the pilot, it was now possible to see out of both sides of the cabin, forward and upward. In the 222 adequate rear observer vision was restricted to the large window in the starboard door.

Although this was the second major incident involving the Metropolitan Police Bell 222A fleet, they remained reasonably reliable and largely trouble free helicopters, well liked by their crews. The type was cherished as a tough workhorse. In defending the two accident record of the 222 the crews often pointed out that had either accident occurred in a similar fashion to most other types it is unlikely that anyone would have walked away from the debris.

CHAPTER THIRTEEN

The big rush / A dangerous task

After two years operating Cessna aircraft from Chilbolton in the wake of the fatal accident at Ringwood, the Hampshire Police ASU purchased an Optica. In the months since the crash much had occurred, including major re-engineering of the basic aircraft by the new manufacturer, Brooklands Aerospace. The item singled out as the most likely cause of the accident, the fuel switch, was modified but remained in the same hidden location out of sight of the pilot. That aside, the changes brought about during this re-work of the airframe were sufficient to convince officers at Hampshire that the aircraft was safe, and suitable for their use. In an effort designed to set it apart from the previous, visually identical, product Brooklands had re-named the type Optica Scout and it was with one of these aircraft that Hampshire set about restarting the Home Office trial early in 1987.

In May 1987 the police unit moved back to HMS Daedalus and took delivery of a trials aircraft, G-BMPF, the following month. The resumed trial was a success and proved that the aircraft was able to do all that had been expected of it, both in terms of versatility and economy. The purchase price of the Optica was not cheap, the three seat had cost almost the same as a three seat helicopter, but its running costs, at £54 per flying hour, were about 20% of the equivalent rotary wing craft.

On December 2, 1987 a ceremony was held at HMS Daedalus to take official delivery of its own Optica Scout G-BMPL. With other examples of the type, such as G-TRAK, the earlier Optica continued to undertake the role of engineering spare to the police unit. The ceremony was poignantly attended by Pattie, Jeremy and Emma Spencer, the widow and children of Gerry Spencer the pilot of the unfortunate G-KATY.

As before, the unit operated under the control of the Royal Navy air traffic control in the watch tower on the south side of the airfield. The police themselves were located in a hanger and adjacent single storey office block near the fire ground on the north side. RNAS air activity was relatively low, the last based naval air unit had been withdrawn in 1981, leaving only a single SAR helicopter, a RN Gliding Club, a Chipmunk and aircraft assigned to the Air Engineering School. The only was now down and this small number of defence resources also declined over the years. Signs of impending decline were all around the police site, with the hulks of old aircraft lined up close to the fire ground. Southampton University Air Squadron Bulldog's also moved in during 1987, and the SAR helicopter moved out in 1988, to be replaced by civilianisation with the arrival of a Bristow Sikorsky S-61N under the first five year contract with the Coastguard. The SAR helicopter was based on the west side of the airfield.

While the Hampshire air unit had been setting up with the new Optica the Home Office had instigated a number of further type trials with police forces. Although a number of police forces undertook extensive ad-hoc hire arrangements locally there was little co-ordination in operations and few attempts at investigating the capabilities of new types. It was usually more cost effective to hire an older well proven type from a well tried supplier and then only for as long as there was an operational need. Newer aircraft usually represented higher costs and an unknown level of efficiency. There were no spare funds for experimentation at force level.

As a force with a history of ad-hoc police air operations, Sussex were tasked with trials using an

Aerospatiale AS341 Gazelle, G-MANN. The Gazelle was by no means new to police operations, the type had served with a number of British police forces in the past but only on rare occasions. Operations over London in the mid-1970s had been restricted to one day at a time when a larger type was needed for specific operations. By the late 1970s, by which time larger capacity helicopters were more acceptable, its single engine formula was banned over the Capital. The German Police in Hannover had introduced a broadly similar model into full time service in 1978-79, but the Sussex trial was to be the first long term use in Britain.

Not all sections of the police in Sussex welcomed the development. Earlier in the year Sussex Chief Constable Roger Birch had been informed that his request for thirteen additional police officers was being turned down by the Home Office. In spite of this rejection here was another section of the Home Office agreeing that £60,000 saved from the previous years budget could be put towards employing a helicopter. It appeared that officialdom had gone berserk.

Prior to the commencement of operations with the Gazelle from the headquarters complex at Lewes, three Sussex sergeants were despatched to Exeter to undertake two weeks observer training with Devon & Cornwall. Again, it could be considered that this course, and its resultant close contact with the West Country style of operation tended to provide a pointer for the style of future operations.

In the first forty-four days from July 1, the Gazelle flew 168 tasks over a total of more than 91 hours flight time. About 60% of these tasks were search related. At the time not all sections of the force were yet swayed by the effectiveness of the helicopter in this trial, but the hierarchy hailed it as an unqualified success.

One of the calls the Sussex crew responded to on August 15, 1987, was to a helicopter undertaking pleasure flights on fire at South Heighton, not far from Shoreham. This machine turned out to be a Southern Air operated Hughes 369HS G-GASB which was badly damaged in the incident and never flew again. Sussex had previously used this helicopter, its gas pipeline inspection stable-mate, G-GASC, and a number of others on ad-hoc police operations. After the trial period closed, in October 1987, Sussex were still operating a helicopter on ad-hoc charter out of a rapidly diminishing budget. This was fortunate as southern areas of Britain were hit by an unexpected wind of hurricane proportions. The widespread damage caused in these storms allowed the operation to further demonstrate the need for air support by a range of rescue operations which included the casualty evacuation to hospital of a woman in the advanced stages of pregnancy.

Although the period of operations with both Southern Air and the HO sponsored Gazelle were relatively intense, full time operations did not take place until a contract was signed with Helicopters (UK) from May 9, 1988. With an annual budget of £200,000, and a three day week, the aircraft brought into use was Bolkow Bo105 G-BNPS. From the start, the crew included paramedics from the East Sussex Ambulance Service.

The commercial company destined to assist a large proportion of British police air support units to form, Police Aviation Services [PAS] was born out of experience with the Devon & Cornwall operations in the mid-1980s. In 1984 PAS consisted of Mark Trumble, Paul Hannant and Steve Bidmead, three ex-military pilots flying exclusively in support of police aviation using leased helicopters and providing the pilotage and maintenance for the Exeter based Bo105. Trumble had flown on the Devon & Cornwall contract with Colt. Working in co-operation with Helicopters UK Ltd., a company that was to later be incorporated into PAS, most of the activity related to servicing the aerial needs of a number of police forces to the west of London using leased aircraft. In 1987 new opportunities presented themselves and led to the growth of PAS and its offspring Medical Aviation Services [MAS]. The major factor leading to the growth of PAS was a further HO trial conducted in 1987.

The HO trial led to the formation of a new combined police air support unit in the Midlands. With a nine month budget of £350,000, the Midland Air Operations Unit [MAOU], involved four adjoin-

ing police forces in and around Birmingham, each of which was set an agreed proportion of the necessary operating costs, commensurate with the expected level of use:-

Staffordshire	18%	£63,000
Warwickshire	8%	£28,000
West Mercia	17%	£59,500
West Midlands	57%	£199,500

a further user was the 4 RCS [Regional Crime Squad]. The personnel assigned to the initial formation reflected the level of funding and included ten sergeants, four from West Midlands, two each from the other forces, Inspector Geoff Hyde-Fynn from West Mercia and Chief Inspector John V Dwyer from West Midlands.

Daily availability for the seven days a week operation was originally set at 0800 to 2000hrs. in summer and 1800hrs in winter. The unit was assigned two aircraft, one Bo105 helicopter and a Pilatus Britten-Norman PBN-2 Islander. The latter was scheduled to be available to the trials unit for six days a week, whereas the helicopter was assigned every day. Regular patrolling was not allowed for in the budget. With a strictly limited budget, the forces concerned and the HO reached an agreement with PAS to allow each aircraft to be available for 300 hours, a relatively low level of use which resulted in hourly flight rates being high. As compensation the terms of the agreement were that additional flight time used would be at a lower than usual rate.

There were non inconsiderable additional costs in the plan. The impending introduction of potentially permanent air support to the area required the addition of roof markings to the ground police vehicles throughout the four areas. In a staged programme each of the radio equipped patrol vehicles were the first to be marked in a scheme that quickly affected every marked police vehicle in the Midlands.

On the evening of Friday July 10, Bell 47J Ranger G-ATFV operated by “Air 80”, flew from the lawn of the West Mercia Police HQ, Hindlip Hall, to fruitlessly search the Frankley area for a man wanted for murder. “Air 80” was somewhat unusual in the one of the partners was a serving Metropolitan Police constable. The significance of this flight was that besides being the last of a series, it was also the last to be undertaken by West Mercia as an independent operator. The next police helicopter to operate from Hindlip Hall was that of the MAOU Bo105 G-BAFD on the afternoon of July 29.

Two days earlier the MAOU had commenced operations at Birmingham (Elmdon) Airport on July 27, 1987. Initially the unit was set up using two spare aircraft, the Bolkow and an demonstrator PBN2B-26 Islander leased from the manufacturers and bearing a suitable registration G-TWOB. The Bolkow was eventually replaced by the intended primary aircraft, G-BNPS, in August 1989 and the Islander by another, G-BEMR from September 1987. In fact a range of different helicopters and Islander aircraft served at various times.

This operation was to mark the debut of the twin engine Islander in law enforcement flying over Britain. Displaying a typically British attitude this twenty year old design had been sidelined in the land of its conception. The Islander had first flown in the summer of 1965 and hundreds of the utility type had since seen extensive use by small airlines and air forces across the world. A number of these small air forces made use of the type in the law enforcement role but the first of its type did not enter service with a de facto police force until one was delivered to the Philippines in the spring of 1977.

In its first day of operations the helicopter was involved in a vehicle pursuit and stopping. The incident involved an element of pure farce brought about by the passenger in the car. This man, knowing that the vehicle he was travelling in was stolen, waited for it to slow down and he then got out a ran as fast as he could from the car and into the nearest building to hide. He was found by the residents to have locked himself in a convenient room. Unfortunately for this gentleman, it transpired that the chosen building was in fact Erdington Police Station and he had chosen the Superintendent’s toilet!

As a result of this police contract PAS were able to purchase their first aircraft to support the operation. The company set up an avionics base in the Midlands and a maintenance contract was let to Helicopters [UK] Ltd at their Sparkford, Somerset, base. PAS set up an administration base at Trumble's home at Kingsbridge, Devon. The company evolved into a group consisting of seven allied sections known as Specialist Aviation Services under which PAS, MAS and Helicopters [UK] Ltd., operated. Early in 1989 the group's first two helicopters were re-registered G-PASA and G-PASB in support of a new corporate image and so set in train a long series of personalised registrations that spanned the alphabet. Two Islander aircraft were registered to MAS, but they to received PAS sequence marks [G-PASY and G-PASZ].

On Wednesday August 19, 1987, a major incident flared up in a small Thames Valley town. The incident was to highlight a number of major problems with communication in the southern section of the force area, problems that were to exacerbate the already dire situation. Although the Thames Valley helicopter did not play a great part in the subsequent action, subsequent analysis of its part in the events in Hungerford resulted in a major boost to British police aviation.

The first victim of the day died outside of the town in the Savernake Forest, west of Hungerford. A pretty young mother, Sue Godfrey, was packing away he remains of a family lunchtime picnic into her Nissan Micra car hen she was held up at gunpoint by a young man who had been observing them from a Vauxhall car parked nearby. Instructed to place the children, aged 2 and 4, in the car, she was taken away into the trees and shot dead. As the children wandered around looking for their mother or a friendly adult, the driver of the Vauxhall car, Michael Ryan, 27, drove off towards Hungerford.

After refuelling his car at his regular petrol station, and unsuccessfully attempting to kill the regular cashier, he left for his home. Ryan, an only child, lived with his widowed mother, Dorothy, in South View a small cul-de-sac a few hundred yards from the town's police station in Park Street and alongside a school.

Once home he armed himself with items from a personal arsenal of weapons and set about killing his long suffering neighbours. Over the years they had observed a growing obsession with guns by the youngest member of the Ryan household. The majority of victims were to die in South View.

In the early stages of the shooting in Hungerford, PC Roger Brereton, 41, and his unarmed colleagues believed that they were responding to in single manned vehicles to a man armed with a shot gun in South View, a man that may have injured someone, but nothing was certain. This type of call was not in itself unique and was well within the remit of an unarmed police officer. No one then realised that the gunman was walking along the street armed with an array of semi-automatic weapons shooting figures to the left or right regardless of age or gender. Even if the police had been more aware it seems unlikely that the initial response would have been any different. A responding ambulance crew were lucky, they managed to reverse of the way and alert their control to the real situation by radio. The message did not get to the police network in time and as a result Roger Brereton, unaware of the extent of the problem, became the fourth of seven people to die in South View, the last being Dorothy Ryan herself. Michael shot her and set the house afire.

Until Michael Ryan picked up his varied arsenal of weapons and walked out into the streets of Hungerford firing wildly, but with deadly accuracy, no one in Britain had ever seriously considered the possibility that the American disease of mass random killings would ever break the tranquillity of the English scene. The result was that thirty one people were to be shot, fifteen of whom died.

The two hour period in which Michael Ryan walked around the town selecting his victims was assisted by an unforeseen series in deficiencies in the Thames Valley Police communications system. The local police station's two telephone lines proved wholly inadequate when allied to the antiquity of the telephones then installed at the police HQ at Kidlington, Oxford. The 105

known emergency calls relating to the situation in Hungerford swamped the system, some emergency calls were one hour old before they were acted upon. An inadequate telephone system added to a poor, fragmented, radio system based locally at the police station in Newbury, ensured that the technical situation soon outstripped the needs of the police on the day.

The local police officers, and many members of the public, dealing with the situation first hand were obliged to manage unaided whilst helpers made their way towards a largely unknown situation in the town from all surrounding areas. As was the case with most similar incidents the world over, a great deal of individual bravery was overshadowed by examples of collective cowardice. Thames Valley did not then possess their own armoured vehicles, a type extremely useful for safe reconnaissance and the recovery of the injured in such rare circumstances. Suitable vehicles, manned by officers wholly unaware of the area, eventually arrived from the Metropolitan Police.

Hungerford, part of “F” Division Thames Valley Police, lies in the southern section of the police area to the west of Newbury and, significantly, on the edge of the Thames Valley Police area of jurisdiction. The town is some 30 miles in a straight line from RAF Abingdon where the force then kept a hired AS350 helicopter. It could be expected that the earliest reaction time would therefore be in the order of 10-15 minutes.

The Helicopters [UK] Aerospatiale AS350 helicopter in use with Thames Valley on that fateful day, G-JORR, was unavailable for instant response as it was undergoing a pre-scheduled maintenance task. It was expected to be unavailable for operations for most of the day. Earlier in the week some wear had been noted in the tail rotor drive shaft bearings, and an engineer, Richard Westlake, had been despatched to change them and undertake routine servicing on site during what was expected to be a quiet period. Believing that the aircraft would be grounded for many hours and unavailable for instant response, the crew, pilot Arthur Burland and observer PC1962 Bob Stevens, went off to undertake various other tasks. It was fortunate that when the call came through about Hungerford a major part of the scheduled engineering tasks, changing the bearings, had been completed, and it only remained for Westlake to ensure that the protective covers were replaced over the shafts along the top of the tail boom of the helicopter while the duty crew was recalled.

With time pressing, the repairs had not been air tested before the AS350 set off south towards Hungerford, the addition to the crew of the engineer on the first of a number of sorties undertaken by the helicopter was potentially a wise precaution in case a problem arose with the recently completed bearing change. The helicopter arrived over the town at about 1345hrs, when Ryan was still at large.

The fragmented story leaking out of Hungerford was so distorted that the crew had no real idea of the situation when they set off from Abingdon. The earliest reports had been of poachers shooting to the south of the town. Once informed of the real nature of the emergency, the helicopter found that the word had also spread to others and found that the air over Hungerford was quickly occupied by aircraft hired by the media, giving the observer the additional task of ensuring that no collisions took place as well as interpreting the scene on the streets of Hungerford below.

A number of additional police were carried by the helicopter during the incident. The first was a locally based traffic policeman, PC Roger Cooper, who was picked up from the ground near to the scene to act as intelligence for the crew. Although he was unused to helicopter flight, Burland and Stevens found his local knowledge invaluable in helping them assess the lay of the land. This officer was replaced by an armed firearms instructor, PC Ernie Holloway, at the same time as the rear doors of the helicopter were removed to allow him an unobstructed field of fire to the starboard side of the aircraft. The AS350 was fitted with standard car type doors which could not be opened in flight, sliding doors in police aircraft came later. Somewhat later a number of officers were carried briefly to place them in tactical positions designed to contain the site of the final stages of the drama.

With the exception of the column of smoke rising from the Ryan's burning home, from a normal search height the town appeared to be a placid country town scene devoid of the carnage that was being reported every minute. It was hoped that the height was sufficient to provide the crew a degree of security from gunfire Even on the ground the scene was so placid that large sections of the population in the small town remained unaware of the mortal dangers accompanying the drama unfolding in nearby streets. The shooting heard by them, if indeed they had heard it, was attributed to the not uncommon sound of farmers shooting vermin in the nearby countryside. In an effort to inform the seemingly lethargic, the helicopter spiralled down to 200 feet to use its loud hailers to warn those on the ground to stay clear of the danger areas. This activity, whilst undoubtedly having the potential to save lives, also served to provide the crew with a better view of the scene.

At 200 feet, the view through the stabilised binoculars remained of normality, the majority of the populace being visibly jolted out of blissful ignorance by the penetrating voice from the sky. It is assumed that the presence of the police helicopter, and probably the aircraft carrying the media, served to contain the further activities of the gunman. Certainly it was through the efforts of the observers in the helicopter that allowed reasonable situation assessments to conclude that the gunman had failed to make further progress and was holed up somewhere. Whilst police were unhappy about the additional presence of the aircraft carrying the media circus, police aviation was then at such an embryo stage that it is quite likely that Ryan assumed that every aircraft circling the town was a police aircraft - a factor which had an restricting effect upon his mobility even before the real police aircraft appeared.

Ryan was never to be seen by those in the helicopter, although the direction taken by the trail of carnage was easy to follow. An apparent lack of police resources to the south of the town was identified and remedied by an aerial blockade until police officers on the ground arrived and cut off the potential escape corridor for the gunman, thus freeing the helicopter for renewed sweeps across the town. The fugitive was eventually found to have taken cover in the empty John O'Gaunt School and, unseen but in contact with police securing the perimeter, shot himself dead whilst crouched into one corner of a classroom.

Eventually, some time after the sound of the shot was heard from the school, the helicopter guided armed police in. In an attempt to pre-search the school building from a safe distance, Arthur Burland brought the helicopter into the hover and slowly edged around the building, moving ever closer. The windows of the building were repeatedly scanned by the telescopic sight and the observers binoculars, but in the face of reflections and the darkness of the interior, nothing was seen prior to the building being entered by ground based armed firearms officers.

The police marksman they were carrying was originally equipped with a shotgun, this indifferent weapon being exchanged for a rifle with telescopic sights at the first opportunity. The rifle offered an improved chance of disabling the gunman with a single shot if he was seen to cross the streets below. If it had come to a straight shoot out, the weapons held by Ryan were by far superior. On top of the stress imposed by any intention to shoot, a major difficulty faced by the police marksman as he lay across the floor of the rear section of the helicopter, was the legal position. Even if Ryan had fired upon him, under civil aviation law the policeman was legally prohibited from discharging his rifle from the aircraft. Hopefully that item of legislation would have been waived by the authorities if a suitable opportunity had presented itself. The unarmoured aircraft was vulnerable to the multi-shot weapons in Ryan's possession but the actual chances of him successfully disabling either man or machine were relatively low.

Finally, after the completion of 3 hours and 15 minutes flying time, refuelling whilst on task had been undertaken at RAF Greenham Common, the helicopter returned to Abingdon.

Hungerford had proven an extremely frustrating experience for the occupants of the helicopter. Although able to see the results of the carnage spread out below them, they were unable to rescue or comfort the numerous victims they saw. The real, or imagined, effect of the experiences of

the three took hold of each of them in a different way. Both Burland and Stevens took the matter in their stride. The pilot was over familiar territory twenty years after his efforts with the AAC Sioux operations in support of the constituent Berkshire and Oxfordshire forces, he was still in the thick of it all on operations with Helicopters [UK]. After leaving the army he had flown with Point-to-Point Helicopters, although not on their London police operations, before moving over to McAlpine Helicopters, with whom he had flown occasionally for Devon & Cornwall, Thames Valley and, once in February 1981, for Glasgow police forces. Having flown for both Devon & Cornwall and Thames Valley with Staverton based Colt until they were taken over. He was to remain with Helicopters [UK] through into the PAS take-over.

Bob Stevens, who started his police career in the final independent years of Oxford City Police, remained flying as an observer with the Thames Valley air support operation until he retired in the mid-1990s. The unseen mental toll of the carnage and the responsibility affected Ernie Holloway, the firearms officer, greatly and, as a direct result of his experiences over Hungerford, he took early retirement on medical grounds some time after the event.

Amid much, understandable, public outcry and recrimination, Mr Charles McLachlan, Her Majesty's Inspector of Constabulary, was tasked with preparing an account of the lessons learned in Hungerford. The report, published in the summer of 1988, took as its main thrust the inadequacies of the communications system and provision of firearms. The minor comments relating to the effectiveness of the helicopter operation were taken up by a number of existing units. The formation of the West Yorkshire ASU in 1989 was reportedly directly related to the events of Hungerford.

In the aftermath of the Hungerford killings, the fact that Ryan had in his possession an example of the deadly Russian Kalashnikov AK47 semi-automatic assault rifle was to have far reaching effects upon this type of weapon in future firearms legislation in the United Kingdom. In what was regarded as a "knee jerk" reaction to the problem, all self loading and multi-shot weapons were banned by an Act of Parliament. Little attention was paid to making the acquisition of all weapons generally more difficult. Ten years later a further incident in Scotland involving a smaller hand gun only served to prove that the danger lay with the user and not the weapon. Again the legislature's instant reaction was to remove all legally held handguns from circulation.

As if the Michael Ryan killings had not been enough, from October 1-3, 1987 a serious, racially motivated, public order situation developed in the Handsworth area of Birmingham. The disturbances were the first major call upon the resources of the MAOU. With knowledge of the riots that had taken place in the same area in 1985, the police knew that the final cost of any renewal in unrest might match the £10M in additional wages for officers drafted in from outside forces and damage as well as the unquantifiable cost of the lives of two dead. With this in mind the police approached the situation with little fear of the final cost. PAS were requested to seek extra resources to bolster the two aircraft at Birmingham Airport.

Assistance included a swift request being put into Devon & Cornwall for the temporary use of their Bo105 G-DCCH. The Exeter based helicopter was collected by Mark Trumble and only retained at Birmingham for two days. In keeping with the terms of the MAOU contract, as a cost saving measure the usual aircraft at Birmingham [G-BNPS] was not fitted with a searchlight, G-DCCH was. Shortly after the Handsworth operation this deficiency was corrected.

The fixed wing Islander aircraft [G-BEWR] was of little use over the Handsworth operations. Almost all of the airborne police requirement was the training of the high powered SX-16 Nite-Sun searchlight onto the darkened streets of Handsworth in support of hurriedly called in police reinforcements on the ground. Aside from the fact that the Islander was not equipped with a searchlight, in their ability to hover the helicopter was far more efficient at the task. In practice it was found that the mere presence of the helicopter resulted in the dispersal of a large proportion of the troublesome elements. The quickly positioned air element succeeded to such a degree that the major disturbances did not take place, allowing the ground duties to be undertaken solely by West Midlands officers, and resulting in major savings at little cost.

In a further HO type trial, from October 5 1987 the police in Wiltshire undertook to operate the Robinson R22 light helicopter. The R22 first flew in the US during 1973, entering production in 1979 but not gaining its UK certification until 1981.The Wiltshire trial represented almost the earliest possible opportunity to test the type. The R22 suffered its fair share of technical problems in development, but was already in private and commercial service with over 20 countries by the time the British police sampled it. In a number of ways this type test represented a new attempt at proving the light helicopter formula pioneered by the Durham Police Brantly B2 in 1963-64.

The UK agents for Robinson, Sloane Helicopters, Sywell, Northampton, arranged a lease of an example of the diminutive two seat helicopter from one of their customers, Fagins Books and supplied two pilots. The chosen R22, G-FAGN, was to operate from an area to the rear of the Devizes police HQ. When ready for service the black helicopter was tastefully finished with red cheat lines, red POLICE sign and the force crest. The crews assigned to the trial were the pilots, Captain Peter Bakke and Captain Peter Sheldon, his relief, and four police observers. The police officers assigned were Inspector Brian J Murdoch and four sergeants, Evans, Galbally, Young and Reeves. Over the fifty seven days it was expected that the R22 would be available it was scheduled to fly 3½ hours each day between 0830 and 1630 hours, adding up to a total of 200 hours by the conclusion. The Robinson was predicted to be 20% cheaper to operate than the slightly larger Hughes 300.

The trial effort started badly. A total of 16 days were lost to initial preparation, maintenance, weather and defect rectification. Having successfully delivered the machine to the field at the rear of the police HQ the trial was put on hold after it was hit by a local authority dustcart emptying the police rubbish bins and rendered unfit for service for the remainder of the trial. The accident set Sloane's looking for a further R22 to replace the specially prepared machine. The substitute was G-BNBT and a total of five days was lost waiting for that to arrive when the weather closed in and grounded it at its Luton base. In spite of the catalogue of mishaps the curtailed trial was completed and declared a success in a report published in January 1988. If segregated from dustcarts, the Robinson was an reliable, effective and versatile air observation tool.

In spite of the glowing report there were continued doubts expressed in many quarters about its small size seriously limiting the carriage of role equipment. These denigrators were of course looking to operate the R22 in the place of the existing types and not to use it in a matter suited to its capabilities. In spite of extensive marketing by the Robinson Helicopter Company in California, and by Sloane in Britain factions in the HO remained adamant that the inability to carry police role equipment was a major problem which could not be addressed until the arrival of the projected larger four seat R44 in the 1990s. Even the production of specialist lightweight searchlights and other police role equipment failed to sway the British denigrators and the R22 saw no further UK service for three years.

At the time of the trial a new Robinson was being offered for sale at £72,000, a price tag which compared well with the slightly larger Enstrom and Schweizer which were around £100,000 each. The asking price for the fixed wing Optica was £140,000. On running costs the Optica was cheapest, with the R22 the cheapest of the three helicopters. All of these aircraft were incapable of carrying a significant police equipment role fit in the modern sense of the term. The cheapest available type with a reasonable ability to carry the largely mythical role equipment was the Bell JetRanger at £320,000 each. At the time the UK police concept of role equipment was still confined to visual observation and the relatively heavy SX-16 searchlight.

The R22 found favour with a number of police forces across the world. Inevitably the earliest users were units in the US, but by far the largest users in terms of numbers were to be the police in Argentina. From early 1993 over forty R22B and R22M [the Mariner, equipped with floats] entered service with the Policia Bonaerense, Buenos Aires. By that time a handful of UK forces, including Gloucestershire, Grampian, Northamptonshire and South Yorkshire, had used leased examples of the R22 in operations. In the main these were small forces with little in the way of either budget finance or prior knowledge of air use. None considered the lack of role equipment a

drawback. By the time the four seat R44 became a viable option for British police in 1994 the continued use of single engine types in police operations was edged out by legislation.

In all the years that the British police had agreed that it was more efficient to search using an aircraft than using large numbers of officers on foot no scientific research had been set in place to measure the exact difference. Late in 1987 the Home Office set in train a study to assess the cost-effectiveness of using aircraft for searching moorland. The resultant report was to be the quoted yardstick for a decade or more.

A series of trial searches for dummy “bodies” was arranged over the extensive heathland on the Cannock Chase area of Staffordshire and the Beaulieu Heath area of the New Forest in Hampshire. The aircraft employed were the MAOU Bolkow and Islander and the Hampshire Optica. None of the aircraft or ground searchers used sensors other than the vision of its crew.

The main conclusions of the trial were that men on foot were 100% effective and aircraft were between 90% and 100% effective in finding objects that could be clearly seen from the air. More tellingly a helicopter could search a square mile in twelve minutes, a fixed wing aircraft 20 minutes but it would take 450 man hours to search the same area on foot.

The much maligned Optica was found to be the most cost-effective aircraft at the task, with the helicopter and the Islander returning performances that were fairly similar to each other. The high cost of the helicopter was defrayed by the additional length of time it took the cheaper to operate, but less observer friendly, Islander to find all the “bodies”. The first of the trial flights over the Cannock Chase targets took place in mid December 1987, this being repeated in late January 1988 over the same area largely to confirm the earlier result. The Optica trial in Hampshire took place on February 10.

The search by the men on foot - conducted by twelve officers assigned to an area of Cannock Chase which was a third of the size searched by the aircraft took place on February 25, 1988. Although they were thorough and found all the targets set out for them in the searched area, the small group were hindered by the terrain and unable to complete a search of even 30% of this smaller section in over four hours.

The conclusions reached by this landmark trial remain valid when related to searching for bodies or other objects lying on the surface of moorland terrain. It should be borne in mind that different types of terrain including dense trees, long grass or burial would degrade the success rate of a visual air search and that an aircraft searching for a warm body with effective flir equipment might well cut the search time appreciably. Air search is not the panacea for all instances, there remain many instances where even the most methodical air or ground search would face failure.

At the beginning of 1988 a survey of US police aircraft use showed that in excess of 500 helicopters and over 700 fixed wing aircraft were in full time use by police and similar agencies. These 1200 aircraft in use on the west side of the Atlantic Ocean dwarfed the relative handful operating in Britain and the rest of Europe. The major difference between the US aircraft and those serving in Europe was the preponderance of ex-military types in service in the USA.

The disbursement of surplus military equipment to law enforcement operators dates back to the 1940s, but the scale of this activity did not reach dramatic proportions until the mid-1970s and beyond. Largely prompted by Vietnam War era re-equipment, there was a specific move toward offering all surplus airframes to government and state departments, ostensibly on a drug enforcement ticket. Recipients were to agree to use the aircraft received for activities related to the stamping out of drug growing or trading and acceptable to the Drug Enforcement Agency [DEA]. Few suggested that this was the only use for which they were to be acquired or employed, but the need for the recipient to display some narcotics work was demanded.
The airframe material on offer in the 1970s included DHC2 U-6A Beaver and Helio Courier liaison types and a number of early helicopters. The latter included military examples of the Hiller H-23 Raven [civil UH12] and the Hughes TH-55A Osage [civil 269/300]. Many new law enforce-

ment units were formed around these types. At knock down prices of a few thousand dollars the material on offer was tempting enough to see hundreds of aircraft snapped up. Not all were in flight condition, many were broken up to provide spares for the better examples. In some instances the broken down airframes were still stored for spares use twenty years later. In some cases there seemed no good reason for the initial acquisition.
Even units with a long history of flying operations were occasionally caught out by this scheme. Early in 1973 the police of the Huntington Beach Police Department, California, were looking for further aircraft to add to its pair of civil Hughes 300s when the military surplus offer came to their notice.
The unit put in a bid for four military surplus Bell OH-13S [equivalent to the civil Model 47G-G3B] at a bargain $350 each. The four were stored mothballed at Davis-Monthan and recovery was to be the buyers problem. With a number of options, including collecting the mothballed machines on the back of a truck, they chose to rent a mobile home and three men moved into the airbase to prepare the Bells for the flight home. All operations were undertaken in the 120 degree heat.
Within days they were able to fly three of the chosen helicopters to their home base where the condition of the airframes after further work so shocked the engineers that the intention of flying the fourth and final machine back to California was quickly cancelled, and road transport substituted.
With more advanced facilities on hand, eventually the four Bell helicopters were successfully rebuilt and placed into service, but it had been a salutary lesson in both the advisability of attempting to undertake the task in primitive conditions at Davis-Monthan and, perhaps more importantly, assuming that the Army would continue to maintain withdrawn airframes in a fair condition in the first instance. In the same period, the same unit was buying new military surplus parts, in the original manufacturers packaging. In 1977 the cost range of these parts was around 5 to 15% of the new costs.
This activity continued at a steady, but increasing, rate with the types being offered changing with the passage of time. Eventually very few fixed wing aircraft types were being declared obsolete by an increasingly rotary wing equipped army and even fewer were being sought by the potential users. From the mid-1980s most trade was in helicopters. Surplus aircraft were also made available from Navy and Air Force stocks, including large types like the Lockheed Hercules transport and Orion radar picket which saw limited use in DEA work. In general the types offered were fast jets or transports far less attractive to the law enforcement user. Exceptions to the rule were the a few Bell Huey and Sikorsky H-34/S58 helicopters surplus to the needs of the Navy.

In 1972 the LACS were seeking a capacious replacement type to undertake an expanded search and rescue role off shore and in the desert. The Bell 47 was clearly limited in its capabilities and the appearance of examples of the piston engine surplus Sikorsky H-34 [the original for the British derivative Westland Wessex] were found to meet their needs. In its civilianised guise of the S-58 the LACS operated a succession of these helicopters through a range of models until the final turbine engine examples [S-58T] were displaced by surplus examples of the Sikorsky SH-3 Sea King in 1998.

On the other side of the Atlantic the military continued to be embroiled in the troubles in Northern Ireland in support of the RUC. The event that was to finally bring home the capabilities of the Marconi Heli-Tele to the average terrorist in the streets of Ulster was to be a particularly horrific instance of murder of two soldiers during March 1988. Until that time it seems that, contrary to military belief, the identity of the secret weapon behind a catalogue of successful convictions by the security services remained very much a mystery.

On March 19, 1988 two British soldiers, out of uniform and in an unmarked car, blundered at high speed into an IRA cortege in West Belfast. Cpl. Derek Wood, aged 24, and Cpl. Robert Howes, aged 23, tried to reverse their car away from the crowd, but were blocked by a taxi. Although armed, they were set upon by a crowd, dragged from their car and killed. It is thought that they were held back from shooting their way out by a wish to avoid causing an incident.

The early stages of the incident took place in full view of television cameras of the media. The whole incident, including the blow by blow sequence leading to the murders, was witnessed and

recorded in full colour by an AAC helicopter hovering virtually unnoticed above. In spite of their horror and revulsion at what they witnessed, and an earnest wish that they could approach and halt the butchery, the aircrew faithfully recorded every nuance of the killings. When a number of the killers were identified and traced as a result of the extraordinary clarity of the footage the danger presented by the equipment to terrorists was finally appreciated.

The original period of nine months allocated to the MAOU experiment was extended to the March and finally lasted for twenty-one months. The first twelve months had been eventful, including coverage of the short lived experimental Superprix in the streets of Birmingham during August 1987. A further unusual operation had been the transfer of urgently needed drugs directly from the manufacturers factory in Daventry to the doors of a RAF Andover prior to its flight north to Scotland in the wake of the "Piper Alpha" oil rig disaster during July 1988. The death knell of the combined unit was sounded in October 1988, the West Midlands police declared their intention to pull out of the MAOU, purchase their own helicopter and operate out of Birmingham as an independent unit. This intention would have to await the delivery of their AS355F helicopter early in 1989 so in the meantime it was business as usual. The MAOU continued to use the Bo105 and an Islander as a matter of course, but during mid-November they used the Gazelle G-MANN and a military Wessex, XV729, from 22 [SAR] Squadron, RAF Valley for a special search operation. Both undertook operations in the Much Wenlock area of Shropshire looking for a missing schoolgirl, Anna Humphries.

Carrying observers used to the relatively slow and uncomfortable progress of the Bo105, the sleek Gazelle exhibited significantly smoother and faster transit times from the MAOU base at Birmingham. The RAF Wessex was originally undertaking search sweeps for the missing girl on its own but the crew, wholly unused to such tasks, were prevailed upon to take Staffordshire Police Sergeant Bob Lakin from the MAOU with them. The girl was later found to have been a murder victim.

On Monday December 19, 1988 29 year old Constable Gavin Carlton of the West Midlands Police was shot dead and a colleague, Len Jakeman, was seriously injured in the pursuit of armed robbers in Coventry. Two suspected men were being chased by police after the theft of a paltry £600 from a branch of the Midland Bank in the town. Carlton died, shot at the wheel of his police patrol car, after a collision between it and the robbers gettaway vehicle. Jakeman was shot in the stomach after he was involved in a scuffle. Having lost their vehicle in the crash, the armed robbers fled on foot across a golf course and took refuge in a house in Stoneleigh Avenue. The police helicopter was at the scene within eight minutes of being called out and in hovering above the house where the fugitives were hiding, effectively ensured that they had no chance is escaping in daylight hours. There was an unsuccessful attempt to shoot down the helicopter with a shotgun, the result of this was that the aircraft altered its position but retained itsa commanding view. The occupants of the house clearly decided that they had no hope of escape, one shot himself dead and the other gave himself up to the waiting police.

Most urban police forces, local authorities and other emergency services around the world have long compiled, and regularly updated, emergency action plans to provide guidance to those of their colleagues who might become involved in some hypothetical major incident. Until December 1988 emergency services with responsibility for rural areas could reasonably discount the likelihood of any major air accident occurring in their district - particularly if they had no airports under their jurisdiction. Scots and Welsh forces in sparsely populated areas could reasonably be expected to predict the occasional crash of some two seat military aircraft in a remote spot, but little else. With only 344 officers serving an area of 1½ million acres, and a thinly spread population of 150,000 the Police Force in Dumphries and Galloway has the distinction of being the smallest in mainland Britain. The force had its plans, but none envisaged the scenario that unfolded on the evening of Wednesday December 21, 1988.

Suddenly, and without warning, at 1900hrs. a section of the small Scottish town of Lockerbie beside the main A74 road from the English border to Glasgow was ripped apart by a ball of flame. In an instant some innocent residents died and others found themselves consumed by a spread-

ing sea of flame. The first of the subsequent calls to the emergency services were not to know the cause, but in time it became clear than an aeroplane and many bodies had fallen from the sky.

The pre-Christmas holiday loss of the Boeing 747 operating a scheduled Panam [Pan American World Airways] Flight 103 on the route Frankfurt - London [Heathrow] - New York is one of the best known terrorist crimes of the late 20th Century and needs little or no introduction. The story of this heinous crime has been the subject of numerous books and news reports, although few have singled out the extent to which air craft resources were involved in the subsequent operations by the emergency services.

Major portions of the heavily laden Jumbo jet, blasted by a bomb planted in a forward freight hold as it flew north over England at an altitude of six miles, crashed into Lockerbie killing eleven people on the ground. None of the 259 occupants of the aircraft survived. Some died instantly in the explosion, but others survived to endure the free fall to earth with a predictable end. In the darkness, tracing other sections of the wreck and the scattered bodies was to be a task that was to be virtually impossible to achieve quickly.

With only twenty police offices serving the town, immediately the nature and scale of the disaster had sunk in, other police forces and the military were alerted to help the officers in Dumphries. The usual four man shift was soon overwhelmed by a sea of new faces. The first unit of the RAF to become involved, logged at 1908hrs., just eight minutes after the time of the impact upon Lockerbie, was the Rescue Co-ordination Centre at Pitreavie Castle - a creditable time in view of the shock wave of horror that naturally gripped the town. As a result of the initial alerts, that night 500 police and soldiers commenced the ground search with the back up of a mixed fleet of helicopters. On the first night fourteen RAF helicopters', including three large Chinook, were directly employed in search operations. Naturally the impromptu fleet included all of the north country based ASR helicopters, but others were drawn from southern England.

The immediate police control was put into the hands of the Chief Constable of Dumphries & Galloway, John M Boyd, who was then HMI [Her Majesty's Inspector] of Scots police forces designate. Much criticised by sections of the press and the families of the dead who had seized upon the small size of the force as indicative of some lack of ability, the Lockerbie incident was to delay Boyd taking up his new HMI post for six months, the end of May 1989.

After a hectic night, the following morning Boyd rose early and sought to hire commercial helicopters directly from Glasgow airport. A pair of AS350Bs, G-PLMC and G-PLMD were acquired from PLM Helicopters at Dalcross, Inverness. The pair was to log a total of 128 hours in support of operations. Boyd considered that the military machines, particularly the Chinook, were large noisy and lacking in manoeuvrability, but they were doing a good job until the civil helicopters were ready to operate. Another factor which may have entered his calculations was the potential high cost of long term use of military helicopters in an unclear financial situation. The civil helicopters remained in use for three weeks.

During the second day the number of ground searchers rose to around 1,100 police and 600 military which, backed by helicopters, were searching an area of 845 sq. miles in eleven sectors. The further evidence of aircraft debris was in Northumbria, some 80 miles south of Lockerbie. Over the next month hundreds of policemen from more than a dozen Scots and English police forces and the military were transported in to the debris strewn search area. Their task was to seek out smaller sections of the Boeing that the airborne searchers had failed to find and load them onto lorries for collection and transportation to the base of the accident investigators at the Royal Aerospace Establishment in Farnborough, Hampshire. Strathclyde alone supplied 500 men, of whom 47 detectives and 16 uniform officers were retained for months. By late January most of the bodies had been found, leaving 17 unaccounted forand assumed to have been vapourised in the disaster - along with some sizeable sections of the aircraft.

The primary reliance upon civil helicopters did not exclude all military assistance. Two Hercules

transports were used to ferry 25 Aberdeen firemen and fifty members of the Aircraft Salvage & Transport Flight [AS&TF] from Abingdon to the area and a Dominie military business jet brought the leader of the AS&TF on a separate flight. The final RAF flight is reputed to have been undertaken by one English Electric Canberra photographic reconnaissance aircraft which undertook an extensive survey of the giant crash site.

CHAPTER FOURTEEN

A Dangerous Task

As an aid to units faced with having to make a choice of aircraft from a bewildering array of different aircraft types, in 1986 a police working group was set up under the aegis of the Home Office to compile a report setting out the cost of owning and operating a range of the more popular types then in use. The members included the ACPO Research and Requirement Group and the Police Requirements Support Unit, comprising officers ranging in rank from sergeant to assistant chief constable. The results of their deliberations was published in 1988, and was effectively an overview of the current state of aviation in the late 1980s, along with reports on the recent trials. Even today the content provides interesting relative comparisons of the associated costs even though values have subsequently risen and many types are now excluded from police use.

Type	**first cost [£]**	**hourly cost [£]**
Robinson R22	72,000	41.56
Schweizer S300C	100,000	48.00
Enstrom F205C	100,000	88.00
Bell 206B JetRanger	320,000	147.50
Bell 206L LongRanger	450,000	192.50
Aerospatiale AS350B	500,000	183.50
Aerospatiale AS355F	1,100,000	279.75
MBB Bol05DBS	1,100,000	280.75
Brooklands Optica	140,000	42.00
PBN2B Islander	310,000	82.50

Early in 1988 the UK agents for Aerospatiale since 1977, McAlpine Helicopters Ltd., of Hayes, west London, found that effective marketing of the twin engine AS355 to the police was hampered by the range of aircraft they were able to display to potential customers. Often the only aircraft available were in the plush executive trim that suited the major part of their existing customer base but was assumed to detract from the workaday image that a police aircraft should suggest. Even the smooth ride offered by the AS355 was feared as a detrimental marketing aspect. At that time McAlpine in being the French manufacturers agent were in direct competition with the German Bolkow 105 and BK117. Both of these aircraft, in use with many police forces throughout the world, exhibited an aura of austere, workmanlike, utility which was assumed to be the ideal image to present, and the aim was to somehow roughen up the image of the French type. The production model then on offer was the AS355F, this came in two versions, the F1 or the F2, which were broadly similar in being powered by a pair of 420 shp Allison 250 turboshafts. The F2 differed only in that it offered a gearbox which could handle a greater amount of torque and consequently allowed it to operate at a slightly higher weight and useful load.

The excellent record of the AS350 in police service stood the AS355 in good stead and the marketing men at Hayes wanted to turn what also looked good into a utility machine. A new AS355F2 was equipped for service in the police role as a demonstrator. The result of their efforts was G-BOOV which was first displayed in the static park at the Farnborough Air Show in September 1988, equipped with an interior suitably toned down, a searchlight, a FLIR 2000 sensor

pod and sliding doors each side. The choice of equipment was based on the company's appreciation of the police helicopter of the future. The addition of the flir unit exhibited just how rare such equipment was in the role in Britain. McAlpine engineers had chosen to fit it under the port side of the cabin inboard of the high landing skids in a position where the view was affected by blind spots created by the skid uprights, later the preferred location on the AS355 was to be under the nose where it was clear of the majority of structural clutter. A number of other types were unable to take up this ideal option and were required to mount sensor pods on pylons which had the tendency to restrict their view. The fitting of high landing skids was not initially seen as a prerequisite for police use, the AS350s had never needed them, but the ground clearance needs of the under-slung searchlight and then the sensor pods soon necessitated their use. The chosen colour scheme, white with a broad red cheat-line, was to become almost a classic element for the next few years. Another feature of the colour scheme was the addition of a triple line of black and white checks across the tail fin.

The Chief Pilot and Sales Manager at McAlpine Helicopters was an ex-police officer who, in spite of a long absence from policing, tended to understand and address the peculiarities of police. David Lewis had joined the police, directly from school, in 1967. After a period in the cadets and the CID, as Constable 349W he was exposed to helicopters at the Westland Heliport whilst serving as a home beat officer in Battersea, South London. This was at the time Twyford Moors were flying the Hughes 300 for the police out of the site. The experience had led to him secretly making enquiries at Bristow's in Redhill and scraping together the cost of 100 hours training to become a pilot with the Biggin Hill Flying Club. Gaining his Private Pilots Licence in only 5 weeks [it cost a mere £10 an hour in those days] he was quickly back at Redhill seeking an interview by the end of 1973. Success at the interview resulted in the decision to end eight years in the police and early in April 1974 he was training to be a helicopter pilot with Bristow Helicopters, flying the Hiller 12 out of Redhill with a new life earning a living as a pilot in the North Sea oil fields ever closer. Lewis' had not become disillusioned by the police, it was just an experience that was too good to turn down. His experience tends to prove that the police chiefs were probably quite correct in their long held assessment that in training police officers to be pilots they were likely to be training at least a significant number of them to leave the force for pastures new.

It was this police background, prior to working his way towards joining the sales teams at Hayes, that led to the incorporation of check bands on the tail fin of McAlpine's police helicopters, the innocuous symbol reflecting the band on the police cap. The first appearance of this was in the winter of 1987. McAlpine supplied the police in Kent with AS350 G-BMWZ for a brief trial and in drafting out the colour scheme David added a red "jam sandwich" cheat-line with police signs, and the force crest on the engine covers. Needing something a little different he then added check bands either side of the crest and on the fin. For some years the fin designs were effectively his "signature" on each of the AS355s placed into police use. This was briefly thwarted by the introduction of dark colour schemes in the late 1990s.

Having suffered a continued problem with instances of car theft, burglary and drug dealing, often leading to a series of dangerous high speed chases on the roads between Liverpool and Manchester, the police on Merseyside were a ripe target for an approach which suggested that the use of air cover might be the answer. Ruthless criminal elements were involved in using stolen high performance cars to deliberately bait police officers in the three local force areas [Cheshire, Greater Manchester and Merseyside] into pursuits which proved to be dangerous to all road users. The police had been notably unsuccessful in crushing the problem so the situation was getting worst daily. Representatives of all three forces negotiated for the short term hire of the demonstration helicopter in a trial designed to test its effectiveness in stopping the rot. Although it served an area four times the size of Merseyside and twice that of Manchester, in terms of size and budget the 1,800 man Cheshire Constabulary was the junior partner in the enterprise.

Lewis took G-BOOV to Merseyside on December 29. In a matter of days the resultant tri-force crime prevention flights were to prove a resounding success for the police and for McAlpine's prestige. Operation Skyblue and Operation Garston as they were known quickly cramped the style of the criminal elements. Operating mainly at night between 2100 and 0600hrs., the ground

based pursuits were controlled from the air, allowing the police cars to hold back and reduce the speeds as the bandit car was tracked to a directed interception undertaken in the full glare of the searchlight. The scenario resulted in numerous interceptions and arrests.

There were so many arrests that after one week of operations over into the New Year one of the gangs deliberately sought to challenge the power of the helicopter with one of its best drivers in a fast car along the Liverpool - Manchester section of the M62 motorway. The attempt resulted in ignominious failure for the gang, the driver and his supporters failing to appreciate that he was always unlikely to outrun a helicopter capable of cruising at 150 mph.

On January 4 at 2200hrs in an attempt at retribution for the dire effect the helicopter was having on criminal intentions, an attack was made on the helicopter at Speke Airport. The late evening assault was made by three masked men in a car which managed to breach the airport security and get to the helicopter armed with an axe and fire bombs. The polycarbonate windscreen was struck with the axe, but the handle broke during the attempt. Having succeeded in breaking one of the flimsier side windows the trio had even less luck with inserting the fire bombs into the cabin. One missed the hole completely and the other struck the side of the fuselage and bounced off harmlessly.

David Lewis was away from the airport having a meal with a Manchester superintendent when he was called back to Speke. He found that the damage was restricted to deep gouges to the windscreen, a broken side window and a minor dent in the airframe. After this inverse accolade from the local Toxteth area gangs, an intended transfer of operational base to Manchester that night was delayed. The helicopter was airworthy and could easily have been returned to Hayes for repair the next morning. It was decided that this would have played into the hands of the attackers so an engineer was despatched to Speke the next day. After a few hours toil the damaged side window was given a temporary repair allowing a “triumphant” operational flight to take place over the homes of the perpetrators the following night.

After ably demonstrating that the primary object of the attack had failed, BOOV was quietly replaced a few days later by G-BNBI and flown south. The suppliers other stock police aircraft, the two were similar, almost identical, in appearance and the exchange may well have gone completely unnoticed.

The damaged windscreen remained in use on the same aircraft for many years, the gouges being quite evident but, being low down, they did not in any way interrupt the view of the crew. It was eventually removed through sheer old age. One of the airframe dents was also preserved in an unpainted state for some years. Ten years on there remain two areas of damage remaining as unique reminders of the attack. The right hand sliding door features a repair patch under the handle where it was repaired, and the interior of pilots door also retains traces of burning.

Later in 1989 the Merseyside Police Authority, suitably impressed by the performance of the helicopter patrols, decided to purchase the AS355 as their own aircraft. With the short but glorious history it already had with the force the retention of the original nondescript registration sequence was decided upon in the face of a general inclination towards personalised marks by other forces. The sale went through in May 1990 and marked the last sale to attract the 51% subsidy for some time as the Home Office rethought its policies.

As the Merseyside operation had started to make its presence felt on the last day of 1988 there were just five fully operational police air units in Britain. Of these the greatest number of flight hours had been accumulated by the Metropolitan Police [two Bell 222A and one AS355F1] with 1,613 hours, Devon & Cornwall’s Bo105 had logged 730 hours, as had the Hampshire Optica and Thames Valley had logged 650 hours. The MAOU had 600 hours allocated but was still short of completing its first year of operations. It is worth noting that the number of hours operated by the Metropolitan Police unit included a high proportion of regular patrol work, and yet ten years later the same unit was achieving double the number using a fleet of three AS355Ns without recourse to patrolling.

Before Merseyside Police decided upon their purchase of G-BOOV, the AS355F2 for the police in the West Midlands started to take shape for delivery in the May. This helicopter adopted the personalised sequence G-WMPA and was formally launched to the media and public at a ceremony held at the police sports ground, Tally Ho! Edgbaston, Birmingham on May 10, 1989.

On delivery the helicopter had basic role equipment fitted, high skids, the searchlight, sky-shout system and an ability to carry a stretcher. At the time West Midlands stated an intention to purchase an infra-red camera for night vision use. In 1990 the unit bought a FLIR 2000 unit which was the first which, after some minor certification problems, was fitted under the nose of the helicopter. The location was found to have a detrimental effect upon the aircraft's static pressure vents and they were relocated to meet CAA requirements. In April 1991 they were one of the first UK police units with a microwave down-link capability for the flir, a facility was also linked to the Canon video the helicopter carried. The effect of acquiring this equipment was dramatic. In 1990 the total of flir assisted arrests credited to the helicopter was around fifty, with just eleven of these being at night. In 1991 of some 338 arrests almost two-thirds of the total were credited to the flir. Daytime flir arrests were 50, but through the assistance of the sensor, night time arrests were an impressive 147. In subsequent years, when the criminal elements came to realise that it was the flir equipment that was tipping the scales against them the number dropped off.

In the first eight months of its independence the West Midlands unit undertook 1,268 tasks which generated 140 arrests. Although already decided upon the helicopter, West Midlands also inconclusively tested an example of the Optica for three weeks early in the year. Aside from Hampshire, there were few who would go public with a good word for the type, a state of affairs that was reflected in the near dormant sales.

With the knowledge of the attack on the Merseyside Police helicopter still fresh in many minds, the base of the unit on the south side of Birmingham International Airport [Elmdon] featured anti-ram raid defences designed to thwart any attempts by criminal elements to drive a motor vehicle at the helicopter. The resultant ring of heavy concrete blocks were to a feature of the unit. Often the subject of humour and at least one cartoon the defences were successful and, when the unit subsequently moved to take up offices in the old Elmdon Terminal, the defences were retained as a permanent feature and moved with the helicopter. The unit was originally set up on the base site of the former No.3 hanger, with the offices accommodated in temporary buildings on the rising ground behind. The initial allocation of personnel was one inspector and five sergeants, four constables being added by 1996.

Having lost West Midlands, its primary source of finance [57%], the MAOU was extensively revised from 1989. A much reduced size unit moved out from Birmingham Airport and took up accommodation at Halfpenny Green, Bobbington, Staffordshire to the west of Birmingham. The loss of the West Midland contribution resulted in a trimming of both the fleet and its capabilities. The unit could no longer afford to finance the use of a twin engine type of helicopter, let alone two aircraft, the Bolkow and the Islander gave way to a single engine Bell JetRanger leased from Lichfield based Central Helicopters. The operation remained financed by four police units however, 4 RCS paying a 1% membership fee into the pool - every little helps. The usual helicopter operated in this period was G-BLCA.

The location of Halfpenny Green did not suit all the contributors to the finances of the operation. Warwickshire's percentile contribution had leaped but the air unit had effectively moved further away. The county lay to the east and south of Birmingham but the unit base was now west of the city, a situation which tended to necessitate longer reaction times than Warwickshire were used to. The irksome situation resulted in the latter also pulling out, and buying their own Schweizer S300C helicopter, operated by PAS, moved to their own headquarters from April 1990. Reflecting this further dilution of responsibility the MAOU was renamed the Central Counties Air Operations Unit [CCAOU].

Although civil contractors were taking on an increasing importance in British police aviation, for

many forces the services provided by the military remained the only source of air experience a large section of them had ever known. They remained as expensive as ever to use. The system of written indemnity's issued by police to cover the military against any claims following an accident was replaced by an insurance scheme. For an annual fee of £40 each organisations of all sizes [police, fire brigade, local authority or whatever] were able to cover all their staff at any time or location in the following year where they might be involved with scheduled or unscheduled military flying. It was a reasonably cost effective system for the smaller organisations, whether they used it in any given year or not. The first six organisations to sign up for the scheme were Humberside, North Yorkshire County Council, Northumbria, Port of Sunderland, Tyne & Wear Metropolitan Fire Brigade and the Tynemouth Volunteer Life Brigade. Most of these organisations were strapped for funds and, being adjacent to the hostile North Sea coastline, in regular need of the services of the military.

The system, backed by the later troubled Municipal and Mutual Insurance Co., found less favour with the larger forces like London as most of them had never had any insurance. All such matters were dealt with by virtue of a High Court Deposit. Twenty years on from the AAC trials with the Sioux helicopters the need for using military aircraft over London was not a scenario that anyone ever expected to see again. Within months that was to prove an understandable but short-sighted view.

In the early hours of Sunday morning, August 20, 1989 up to 150 young party goers were dancing the night away and admiring the view of night time London from the 90 ton River Thames Thames pleasure boat Marchioness as they celebrated the 26th birthday of Antonio de Vasconcellos. Without warning the Tidal Cruises ownded vessel was struck from behind by the 1,800 ton ocean going dredger Bow Belle as it passed under Southwark Bridge. The crowded pleasure boat tipped over on its side and sank quickly. Fifty five, mainly young, people were either thrown from the vessel or dragged below its dark waters in the twisted wreck to their deaths.

Not far away, the Information Room at New Scotland Yard was first alerted, at 0149hrs, by one of the River Police launches. Within two minutes an orange alert had gone out to some of the best accident and emergency services in the world. The last location was attended by all types of rescue craft. Earliest on scene were more police launches but all types of craft were put to use in a frantic effort to save as many as possible from the murky waters.

At the time the duties of the Metropolitan Police helicopters remained unduly civilised with the unit only normally operating until 2200hrs each evening, then relying on the call out of a duty crew of three. Extracted from their warm beds
the duty officers and the pilot returned to Lippitts Hill and flew to the Central London to assist the searchers to look for survivors with the aid of the high powered searchlight. The extended time elapsing between the accident and their arrival precluded any realistic chance of finding survivors. The same applied to the calling in of the Coastguard helicopter from Lee-on-Solent in Hampshire and a military ASR Sea King. Although the Bristow Sikorsky S-61N was equipped with a heat seeking FSI FLIR 2000 unit the sheer distance that each of these helicopters had to cover from its base to London resulted in the rescue helicopters also arriving far too late for life saving.

The £7M Bristow contract with H. M. Coastguard to provide a civilian replacement service for the Solent area in place of RN Wessex and RAF Sea King was agreed in May 1988. Bristow have used FSI flir equipment in the oil fields since the late 1970s. The S-61N fleet assigned to Coastguard duties carrying single sensor flir turrets since the first FLIR 1000 unit was fitted to an aircraft based at Sumburgh in December 1983. All this was long before the UK police had acquired their own equipment.

After making irregular use of the AS350 and Bell 222A helicopters of surrounding police forces, in September 1989 the Surrey Constabulary entered into an air support evaluation . McAlpine Helicopters supplied an Aerospatiale AS355F1, appropriately registered G-SASU, to the force headquarters at Mount Browne. As its level of role equipment was inappropriate for long term

use in police use, continued use of this helicopter was not intended and two months later a further AS355F1, registered G-SCHU, was delivered for use with this embryo unit. The second example featured high landing skids and a reduced level of flight instrumentation equipment which were better suited to the police role. The Metropolitan Police Bell helicopters featured a high level of instrumentation enabling use in virtually all weathers [IFR], but this was found to be a largely unnecessary level of sophistication in the UK police role and the associated weight penalty was usually avoided in later types including the Bo105 and AS355.

Each of the eight trained police observers and McAlpine's believed that the experiment was destined to lead to the formation of a permanent air support unit to serve the county. It was therefore everyone concerned who was surprised when shortly after the arrival of the replacement helicopter the trial was halted by an unexpected shortage of finance.

The underlying reason for the curtailment was the result of an overturned decision in the Court of Appeal. On October 5, 1974 a bomb planted in the Horse & Groom public house in Guildford killed five people, in the November further bombs exploded in Woolwich, Coventry and Birmingham killing a further 14 people and injuring hundreds of others. The police in Surrey and Birmingham successfully prosecuted two related groups of Irish people and they were convicted and sent to prison for long prison terms. After a long campaign, late in 1989 this apparent success came back to haunt the police when allegations of a miscarriage of justice were upheld by the Court of Appeal and the Guildford Four were released. The cost of the investigations into the cases of the Guildford Four stripped the spare money allocated to the helicopter trial from the coffers and the helicopter returned to McAlpines. The Birmingham helicopter operation, being more firmly established, was less affected by the high costs of their own enquiry into the Birmingham Six.

The displaced Surrey trial helicopters enjoyed further use in the police role, G-SASU was sold and re-appeared with Aeromega Helicopters Ltd., based at Stapleford Airport, Essex. It retained its special registration for a further eight years, later serving as occasional engineering back up to the leased helicopters operating the unit set up in Essex from 1990. Finally it was extensively rebuilt and sold to the Essex Police in 1998 and lost its registration to become G-EPOL.

Back with McAlpine's the second AS355, G-SCHU, acted as the police role equipped demonstrator and enjoyed a number of unusual operational uses beyond that of acting as the engineering spare. It spent a period with the police in East Anglia [Cambridgeshire, Hertfordshire, Norfolk and Suffolk] on a combined operation that was until then virtually the first any of these forces had undertaken with extended police aviation use. Finally the helicopter was sold to PAS and became G -PASF in service with the police in Newcastle.

Even as the Surrey trial stalled in the November McAlpine delivered a new AS355F2 to the police in Greater Manchester. The initial crew strength allocated to the operation was eight officers and an inspector with four additional officers as part time observers. Crewing followed the now established one pilot and two observer formula. From the start the helicopter was based in a secure police owned facility in the Openshaw District of the city. The officers were allocated comfortable offices in the new traffic garage, but due to cash shortages the helicopter was kept out in the open on a pad beside the railway line and used an on site mobile fuel trailer. At the time the air support operation closed down in the early hours of the morning which resulted in a ritual delivery of the Squirrel to a place in a hanger at Manchester Airport. With the unit becoming operational again only a handful of hours later this arrangement was to prove an expensive, but necessary, evil to preserve the state of the airframe. The Manchester situation was complicated by the HO placing a freeze upon the payment of their 51% contribution to the purchase price of police helicopters pending the outcome of research into an idea of creating regional clusters of police units in an effort to cut costs. There was no similar withholding of contributions affecting lease arrangements.

This minor reining in of financing did not hold back PAS. Mainly concerned with entering into leasing agreements PAS were expanding their operation from 1989 and into the 1990s. They

took over Helicopters [UK] Ltd., complete with the operation in Sparkford, two Bo105DBS helicopters, the Thames Valley and Sussex contracts from the Berkley Leisure Group early in 1989. The Bolkow's, G-BNPS and G-BNRS, were re-registered to the company during October 1989, at which time they took up the marks G-PASC and G-PASD. G-PASA and G-PASB the original machines had been issued the company sequence earlier in 1989. The sphere of influence remained firmly entrenched in the south western counties, Wiltshire, Avon & Somerset and Devon & Cornwall, mostly ad-hoc operations related to annual events including celebration of the Summer Solstice and Glastonbury Festival. The availability of a larger fleet, with spare aircraft available for engineering back up, came in useful when the Exeter based Bo105 was dogged with a series of engine faults that refused to clear. It was decided that Sparkford and the original site in Kingsbridge were not ideal and on March 1, 1991 the whole operation moved north to a newly built hanger and offices at Staverton, Gloucestershire. The location was partly chosen because of easy access to both the M4 and M5 motorways - an important factor in getting engineers to customers aircraft with snags. Only two years later the number of aircraft that wore the personalised registrations rose beyond twelve. In the same period there were twenty five pilots and ten engineers available.

On November, 1989, at a projected cost of £500,000, the police in Northumbria entered into an agreement with PAS for the lease of a Bo105, G-PASD, on an initial six month trial period. The need for the helicopter was long overdue, even on the day it was handed over at the police headquarters at Ponteland , proceedings were disrupted by the aircraft dealing with three calls prior to the ceremonial. Northumbria did not intend to retain the Bolkow, and on August 19 the following year [it should have been in the May] they exchanged it for a trial with AS355F1 G-PASE for a further six months. They had already decided upon permanent operation by July 1990, well before the intended deadline of November 1990, and had invited tenders for a lease to commence from April 1991. The lease also went to PAS, with G-SCHU being acquired and re-registered as G-PASF to undertake the task of creating the Helicopter Support Unit.

The following month the West Yorkshire Police took delivery of a Bo105 in their own marks, G-WYPA. The helicopter had been ordered direct from Germany in the April and was handed over in West Germany prior to delivery to Yorkshire. The aircraft became operational on December 18. The unit was based in a purpose built hanger and office complex at Carr Gate, the Operations Division near the M1 Motorway in Wakefield. The unit was manned by four sergeants and one inspector, with two sergeants in reserve. Initially duties were restricted to 0700 to 2200hrs, but these were extended in stages into the early hours of the morning. The initial annual budget set aside for X-Ray 99 to undertake 1,000 hours annually was £350,000.

Further bolstering PAS's run of new start up operations late in 1989, Sussex Police took delivery of Bo105 G-PASX on a controversial ten year contract. The controversy surrounding this contract related to its length and its binding nature. On a number of occasions subsequently attempts to co-ordinate new units into consortiums involving Sussex were thwarted until December 1999.

The police in the more sparsely populated areas of Britain, primarily Scotland and Wales, tended to be ignored when the government sought to extend the use of aircraft. In spite of the valiant efforts of David McNee many years earlier the people of Glasgow, covered by the Strathclyde Police, were forced to wait until 1989 to regularly operate a helicopter. Late in the year a five month trial, costing £198,000, was arranged between the police authority and Glasgow Heliport based Clyde Helicopters. The Glasgow Heliport is on the bank of the River Clyde and in a redevelopment area close to the Scottish Exhibition Centre.

The helicopter chosen for the trial was the venerable Bolkow Bo105, G-BFYA, with a number of single engine Bell's, also operated by Clyde, in the engineering support role. The prime helicopter was unusual in that it was the only aircraft in UK police air support that normally flew with emergency floatation gear fitted to the landing skids and crews wearing lifejackets. This feature, with its significant weight penalty, was required by the type of terrain regularly overflown by the unit. Although primarily tasked with flying over the City of Glasgow there were a number of occasions which required extended flying over water. From the start the unit had the use of a FLIR

2000, an important tool but also a further weight penalty which ensured that the nose mounted searchlight was only carried at night when it was required.

Police air support in Scotland was poorly served by government subsidy. As the police in England and Wales were becoming assured that the Home Office would contribute a significant proportion of start up and equipment costs [usually 51%] their colleagues in Scotland were facing firm refusals to help by their equivalent government department - The Scottish Office. The Strathclyde operation was therefore always operated on a tight budget and important tools of the trade like the FLIR 2000 remained in service with the unit long after being considered technologically obsolescent. The Strathclyde unit operated out of a portable building situated alongside the Clyde Helicopters hanger building for years beyond the time when a similar unit south of the border would have been re-housed with its own base and hanger.

On the morning of Wednesday January 24, 1990, a cold and snowy day, the Bolkow was out of service for maintenance and the Bell 206L LongRanger, G-STVI, normally used to replace it was also unavailable. As a result it was Bell 206B JetRanger, G-EYEI, that stood in for the primary police helicopter. The Bell was usually operated for the local radio station on traffic reporting duties and had been flying earlier in the day covering the morning rush and carrying a Scottish television film crew.

In 1990 the normal minimum height for flying over an urban environment was 1500 feet. Police role related easements allowed flying down to 300 feet in daylight and 500 feet at night in the Bolkow. Although not fully understood at the time, these height restrictions and flight in conditions of snow did not apply fully to either of the Bell helicopters available as engineering spare craft.

On that fateful morning the pilot of the police contract JetRanger was the 47 years old Chief Pilot for Clyde Helicopters, Captain Graham Pryke AFC, one of two experienced pilots assigned to the police task. Pryke had a creditable total of 7,400 hours flying gained over a 21 year flying career, 13 years of which was with the AAC in a range of weather conditions. Making up the police component of the crew were Inspector John Muir, 44 years, the unit's senior officer, in the front seat beside Pryke, Sergeant William Shields, 32 years, in the rear left seat and Sergeant Malcolm Herd in the rear right hand seat.

The JetRanger was boarded at the heliport at 1400hrs and took off to observe and report upon traffic flows on the A77 at Fenwick and the liklihood of them being disrupted by inclement weather in the area during the evening rush hour. Even as they became airborne the task changed twice and the four were directed to search for suspects in the vicinity of a large store robbery at Barrhead. Once in the area a search pattern was flown as the helicopter flew on a southerly heading.

Although the original reason for their flight had been related to the effects of inclement weather on road traffic, the latest forecast and reports from another company pilot led the crew to believe that no untoward weather conditions would affect the flight. It was a shock to find the helicopter enveloped in an unexpected snowstorm, but each of them believed that the JetRanger was cleared to operate in such conditions for quite a period and did not specifically avoid the scattered snow showers encountered.

The Bell was operating VFR and possessed no blind flying aids, Captain Pryke was forced to take them down lower in order to maintain a visual ground reference. It was later estimated that the altitude was down to 200 feet at one point, as this was too low the search task in the vicinity of the snow storm was called off. The poor visibility made continued progress difficult , at least one location being misidentified in the murk. Setting off on a north-westerly heading, the flight went reasonably well until they reached the Eastwood Toll area at about 1420hrs., the engine then failed.

Too low and slow the Bell was outside its performance avoid curve and there was no possibility of it entering the safety and the return of control of auto-rotation before striking the ground.

Pryke had no significant control over the next few seconds as the helicopter fell with its fuselage banked over at 45 degrees to the left and in a nose down attitude. The main rotor struck the south-west face of a four storey block of flats, some 70 feet above street level, the flimsy tail boom then struck the same building, became detached and fell free of the helicopter as both fell to the street below.

As the cabin pod impacted with the ground the rear section of the right side of the fuselage struck a stairwell wall which penetrated the area where Malcolm Herd was sitting. The 32 years old sergeant, a father of four, died as a result of his injuries. All of the other occupants of the police helicopter were badly injured, the pilot suffering a fractured base of the skull which robbed him of the details of the last few minutes of the flight and left the investigators to rely upon the evidence of eye witnesses and the physical evidence of the wreck. The other two police officers were able to walk away from the wreckage but the pair on the right hand side were trapped and had to await the arrival of the emergency teams with foam and cutting equipment. Pryke was taken, unconcious, to Victoria Infirmary.

No one was hurt on the ground, but the dazed and confused elderly residents of the building impacted, McLaren Court, Eastwood, were temporarily evacuated to nearby council offices in deference to the large amounts of kerosene fuel that had leaked from the wreck.

The death and many of the injuries were attributed to head injuries and, as a direct result of this accident, it was recommended that police air support personnel and their passengers would be issued with Bone Dome crash helmets. This idea was accepted universally but it was to be many months, in some cases years before some established units were so equipped. Both Merseyside and Metropolitan Police crews were still flying bare headed two years later. This apparent reticence was often induced by a mixture of financial constraint, selection and testing, tempered with a measure of crew preference.

The deliberations of the subsequent AAIB enquiry revolved around the unsuitability of the single engine JetRanger to wholly substitute for a twin engine Bolkow in the police role. Even on the day of the accident the finger was been publicly pointed at the likelihood of the cause being related to snow affecting the engine. It transpired that the helicopter was not fitted with an engine intake snow deflector as recommended by the manufacturer, as a result the engine ingested snow, choked and failed. The AAIB and the surviving police crew members reported that they were told that the company believed, incorrectly, that the helicopter could fly for up to one hour without the equipment being fitted, although this was later denied by Clyde.

As a result of the accident the dead officer's widow subsequently sued both the Strathclyde Police and Clyde Helicopters for £250,000. In the Scottish High Court in 1994 Lord Milligan , a judge, ruled that as Malcolm Herd was a passenger on the flight, and not a crew member in the legal sense, and therefore only £93,000 was the legal liability payable by Clyde as the carrier. The legal status of police officers as passengers rather than crew when on police operations was to be a recurring subject.

The accident did not halt the police operational trial for long, but the remaining Bell, the LongRanger, was withdrawn from its police role in Scotland and, re-registered G-EYRE, sold. Ironically it appeared again in the occasional police air support role a few months later as an engineering spare with Aeromega Helicopters, tasked with support of Essex Police.

Having come to terms with the earlier loss of two colleagues and their first aircraft five years earlier, in 1987 Hampshire had restarted operations with the unique Optica once again. The renewed faith that Ruprecht and his team had placed in the type led to other police forces undertaking trials in it. The results of this wider experience were not to be all the manufacturer had hoped. The police in Avon & Somerset, Gwent and Wiltshire each flew in the Optica without any enthusiasm. Officers in Surrey were scheduled to have a flight but this was cancelled by inclement weather, a disappointment which was greeted by a sigh of relief and no rush to re-book the flight test. It was clear that the blight created by the 1985 accident remained fresh in the minds of

virtually everyone in the British police.

In the USA the situation was almost entirely the opposite. In July 1989 Brooklands Aerospace won a $1M US order for six Optica aircraft for supply to an enthusiastic Piper dealer Kansas City Aviation Centre [KCAC], Johnson County, Olathe, Kansas. The market for the aircraft looked highly promising after representatives of the US Department of the Interior, the FBI, DEA, US Customs and the US Coast Guard had flown in it. KCAC took up the sole sales and marketing agency and set about displaying their single demonstrator to the Civil Air Patrol and to the Airborne Law Enforcement Agency [ALEA] at their annual convention in Dallas. KCAC were so certain of the future of the aircraft that there was a verbal agreement to acquire 126 aircraft at a cost of $225,000 each over the next five years. Brooklands reportedly turned down an extremely tempting offer for the whole production operation to be bought up and transferred to the USA.

As a result of family pressures there had been a number of changes in the manpower assigned to the Hampshire unit. Bob Ruprecht was still in charge with Sergeants Shoobridge and Hills and Constable Churchward remaining from the original team. One of the new members attached to the unit was Constable Dave Strong. He set to improving the communications fitment in the Optica, producing his own design of interface unit in prototype form. The equipment allowed a number of audio inputs to be fed into headsets at a volume level commensurate with their urgency. All positions receive input from the police and ATC radios and the intercom. The observers require the police radio input to have priority over all others. Conversely, the pilot requires greater input from ATC and therefore his reception level of signals from them is louder. The system was required by all police units, and was promised a great future. By 1990 the system was working well and had been adopted by a commercial company, Sonic Communications (International) Ltd., Birmingham, for further development into production. The equipment that Strong created for only £34 was ready for the market at ten times that price. Unfortunately for Sonic it was to be ready for service in time for the Home Office to recommend a different system for fleet wide adoption. The chosen product was a complex system from the Canadian company Northern Airborne Technology [NAT]. This universal system was progressively fitted to all UK police aircraft and Dave Strong's effort was sidelined, Sonic being effectively denied a home market for the product.

Disaster again struck the Optica programme in 1990. Uniquely in the annals of British police aviation eleven years after the unit had been formed Chief Inspector Bob Ruprecht remained as the officer in charge of the Hampshire unit and also continued to act as its chief pilot. His position had allowed him to earn a commercial pilots licence and log 2,500 hours flight time, much of it accrued on police flying. On the morning of Sunday March 11, 1990 Ruprecht was with PC Barry Smith his observer in the Optica at 1045hrs taking off from the main runway at Lee-on-Solent. The Optica lifted off and climbed to about 160 feet at an airspeed of 80mph heading out over the waters of The Solent when a loud bang was heard behind the crew and the Optica was shaken by severe vibration. Although still over the scant remaining length of the runway, the 44 year old pilot was presented with a clear view of the sea and by rights should have chosen the decidedly damp option of landing straight ahead after clearing the runway, coast road and foreshore. He immediately lowered the nose of the Optica and cut the throttle in an effort to reduce the vibration. Far from keen on the wet option he put the crippled aircraft into a 30° banked turn to the left and crossed over the slip-way and hanger area of the military base and headed for runway 10 near the control tower at a tailwind assisted speed of 80mph. Most of the runway had passed when the aircraft touched down safely on the grass alongside the runway without further damage or injury.

The Optica was largely undamaged. The blades of the cowled fan were stripped off and there was some damage to the surrounding airframe. The subsequent enquiry into the cause of the accident concluded that there had been a fatigue failure of part of the fan assembly. The Optica was grounded until the manufacturer could devise a suitable redesign.

With so much resting on the success of the design the manufacturers ensured that the incident at Lee-on-Solent was kept out of the media for as long as possible. At the end of March a local pa-

per reported the incident in a matter of fact way at the end of a piece on the financial survival of the ailing Brooklands as the Receivers were called in yet again. At that stage they were unaware about the true seriousness of the technical situation. It was the end of May before another local paper led with the news that the police incident was a major fan failure and that they were considering scrapping the Optica. A new company, the Swedish based Lovaux Group which operated as FLS Aerospace, bought out Brooklands with the intention of turning the fortunes of the type around.

The Hampshire Police unit was itself also grounded by the fan failure, but the unit quickly arranged to lease a Pilatus Britten-Norman PBN2B Islander from the manufacturers. This was the same type demonstrator registered G-TWOB that had served with the MAOU in 1987. As the ground swell of UK police aviation moved inexorably towards twin engine power, Hampshire opted to stay with the Islander and eventually bought their own in December 1991. In the meantime the partially stripped remains of the Optica reposed in one of Lee's hangers awaiting a decision on its ultimate fate. It was finally sold to FLS and, re-registered, served as their prototype in a vain attempt to turn around the fortunes of an idea that did not quite meet its promise.

Hampshire ordered an Islander of their own and this fully role equipped aircraft, appropriately registered G-HPAA, was delivered to Le-on-Solent late in 1991. At that time role equipment for the Islander in UK police use was confined to an in-flight opening sliding rear door on the port side, bulged observation windows, police radios and a front observers seat set on long rails which allowed the occupant to move from the right hand co-pilots position to the mid cabin observers position. The rear observer was situated adjacent to the opening rear door. Later, when the aircraft was fitted with a nose mounted flir camera the centre position was equipped with the monitor.

In the wake of Merseyside purchasing G-BOOV, on May 12, 1990 one of the smallest forces in the UK, Dyfed-Powys in mid-and west Wales, officially launched an air unit using a Bell 206B JetRanger III registered G-DPPA. Some years earlier the Chief Constable of Dyfed-Powys, Ray White, had arranged for demonstration flights with a local contractor. The first flight had been in a Cessna 337 during 1987 and White was impressed by the possibilities that aircraft suggested for his force. In the event a period using Bell JetRanger helicopters hired on an ad-hoc basis from Cardiff based Veritair swayed Dyfed-Powys toward purchasing that type in October 1989. In a buoyant market the Bell was difficult to purchase at short notice through European sources which led to a direct purchase from Canada to circumvent a possible two year waiting list. The purchase was funded by re-scheduling the existing budget and using money made available from the sale of police property. During February and March 1990 the helicopter crossed the Atlantic to Liverpool aboard the vessel Atlantic Conveyor.

The JetRanger was equipped for its intended role as a daylight observation platform over 2,343 square miles of mixed terrain from the Welsh hills to the rugged coastline abutting the Irish Sea. The airframe was equipped with high skids, a non-standard feature believed particularly important in the rugged Welsh terrain, and a public address system. Although the unit was to be available for night time call out it was envisaged that it would operate only until dusk, duty hours being adjusted to take this into consideration, summer and winter. There was no searchlight fitted but the Bell featured the first operational deployment of the specialised NATs communications system in UK police service. This was some time before the system was adopted as the industry standard.

The Dyfed-Powys JetRanger, "X-Ray 99", became available for crew training at its new purpose built base at beside the modern police headquarters outside Carmarthen later in March. With a relatively small pool of officers to call upon, less than 1,000, the allotted manpower was pared down to a minimum both in numbers and cost. Pilotage, obtained from PAS, was pared down to an unnatural figure of 1.6, and represented the person of Captain Nielson and an unspecified relief from the same company. Dyfed were later to take the then unusual step of hiring its own pilots directly. They were the first of a number of modern units to take this step but it was not unique - both Glasgow and the Metropolitan Police had employed pilots in the 1930s. Initially

there was no inspector in direct charge of the unit, a sergeant and a constable acted as full time observers and two further constables acted as part time reserves to fill the single observer station in the helicopter. In the wake of the Strathclyde accident the crew were issued with helmets.

In 1990 the Communist world in Europe, as personified by the Warsaw Pact, was visibly crumbling. The death throes of the political and military grouping were yet to be played out when, in October 1990, the former East and West Germany were allowed to re-unify. The police in West Germany had long operated civil aircraft of various types on police air support. Fixed wing aircraft had long been given up, resulting in each of the state and provincial police forces being settled on a mix of medium sized American, French and West German helicopters at re-unification. The Bo105 outnumbered such types as the Bell UH1, BK117, SA330, SA341and SA365, but at the time there was little evidence of widespread use of sophisticated equipment such as flir.

In East Germany the police, grouped in a similar manner by state and province had access to a range of Russian and Polish built Mil and Kamov helicopters and a small number of Wilga fixed wing aircraft. There was no immediate question of attempting to integrate the two fleets, as each could remain with its current user for some time, but the best of the former East German fleet were re-registered onto the former West German register and others scrapped or given to museums. The Wilga aircraft were withdrawn. The one unit that did face up to integrating the Russian types, mainly the Mil Mi-8, into its fleet was the BGS, the Border Guard.